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ABSTRACT

This teacher's guide begins with sample unit plans for junior high school art teachers. Unit plans cover specific themes, approaches, objectives, concepts, motivation, resources, study approaches, evaluation, and related activities. A description of how the units relate to the objectives and concepts of the art program's curriculum guide is also provided. Following this section are separate sections on facilities, equipment, and materials; art displays, art shows, and art contests; and careers in art. A glossary covers basic art terminology. A 32-item list of print and visual resources for art education is included along with addresses for ordering some of these materials. An extensive discussion about art hazards covers dangerous materials and possible substitutes, safety precautions, and resources for additional information. The final section covers the use of technographic media, such as still cameras, video cameras, projectors, and photocopying machines. (IS)

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ART 7
ART 8
ART 9

Curriculum

Teacher Resource 1986

SP 016 460

NOTE: This publication is a service document. The advice and direction offered is suggestive except where it duplicates or paraphrases the contents of the Program of Studies. In these instances, the content is in the same distinctive screening as this notice, so that the reader may readily identify all prescriptive statements or segments of the document.

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Teacher Resource 1985

The resource is designed to accompany your Junior High Art Curriculum Guide. The following items are designed to facilitate the teaching of art and the locating of resources and resource information. Included in this document are the following titles:

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Sample Unit Plans

Sample Unit Plan - **Grade 7 — "Fantastic Images"**

Theme:

Compositions: Finding unusual forms and inventing fantasy or mysterious images.

Approach:

Have students explore the expressive effects of certain design elements such as color and expressive line in the making of complete compositions from their imagination.

Objectives: Students will:

1. explore the transformation of form in composition: progression, alteration, exaggeration. (Compositions)
2. use expressiveness in their use of elements in the making of images. (Drawings)
3. search for contemporary evidence relating to themes studied. (Encounters)
4. learn to use the basic vocabulary of art criticism in descriptions of their work. (Compositions)
5. experiment with color effects in compositions. (Compositions)

Concepts:

- Unusual combinations of shapes can suggest the invention of fantasy or mysterious images.
- Color schemes direct attention.
- Primary colors combine to create secondary and tertiary colors.
- Terms describing materials, techniques, subject matter and design elements comprise the basic vocabulary of art.
- Identifying problems associated with image-making is part of learning to analyze and critize one's own art works.
- Imaginary forms can be created by altering or recording parts of images.
- The ways people generate visual works can be influenced by a number of factors.

Motivation:

- Have students bring to class and discuss examples of imaginative phenomena - creatures and places from movies and stories (special effects, science fiction places and events). Have them describe the fictional explanations of these strange phenomena (other worlds, future time, universal catastrophes, spaces travel, intergalactic wars).

cont....

- Look at the "invented worlds" of several artists who transform and rearrange nature to suit their imagination. Discuss concepts of fantasy, exaggeration in visual compositions (see Visual Resources below).

- Make 3 sets of index cards each containing single words or phrases:

  a) a series of descriptors of animal features: claws, horns, fins, flippers, fangs, antennae, beak, eight eyes, ten legs, etc.
  b) a series of capabilities: swim, fly, crawl, slither, move through space, move through time, dig, swallow, divide, devour, etc.
  c) a series of settings: Mars. Mt. Everest, Antarctica, prehistoric swamp, the moon, underground cavern, etc.

  Have students randomly select a card from each set and begin to imagine what a creature with the given features, capabilities and setting would look like.

Resources:

A. Visual resources -
Surrealistic and exaggerated abstractions:-
A. Masson, "Battle of the Fishes"; J. Miro, "Self-Portrait"; M. Ernst, "Horde" and frottage works; Y. Tanguy, "Furniture of Time"; S. Dali, "Persistence of Memory"; J. Dubuffet, "Business Prospers"; J. Leger, "The City"; Archimbaldo's works, images from science fiction stories and movies, N.F.B. films about surrealist painters, imaginary creatures.

B. Readings -

(Students) - Art in the Making, "Animals" pp. 66-67, "Machines" pp. 68-69, "Sky" pp. 62-63, "Surrealist Art" p. 79.
(Teachers) - Drawing: The Creative Process, "Imagination" pp. 252-257, Art Synectics, "Imagining and Transforming" pp. 23-48, "Paradox" pp. 113-136.

C. Other Materials -

Pictures, models of prehistoric creatures, science fiction creatures; magazine pictures, found objects, collage and construction materials, painting and drawing materials.

Study Approaches:

1. Discuss student's ideas of why artists create fantastic images; the imaginative and expressive purposes for exploring unreality, looking at things in new ways. Spend some time in imaginative exercises - talk about deliberate combinations of unrelated objects, unusual ideas. Have students go through the motivation (above), selecting cards and creating creatures in the selected settings. They should develop finished compositions (drawings, paintings, collages or constructions - 2D or 3D).

2. Have students write short stories or explanations to go with their invented creatures.

cont....

SAMPLE UNIT PLANS - Grade 7 (cont...)

3. Do analytical drawings of organic and man-made objects, geometric forms. Randomly select a few to combine into a surrealistic image.

4. Develop a finished composition such as (3) that uses strong color contrasts to emphasize one design element.

5. Cut up magazine images: rearrange, distort, add features to invent new fantastic images.

6. Describe, define and use correct terms for each process and element of art - make short descriptive statements to go with each project. Have students work in small study groups to describe problems of design and composition that they encountered, and how they attempted to solve them. Refer back to visual examples from Motivation to find ways artists handle similar design problems, and relate these works to student works.

Duration: Four weeks.

Evaluation:

Use checklists, anecdotal records, student-teacher conferences:

- Students' portfolios should include finished compositions, written statements. Work should show evidence of:
  - efforts to use exaggeration, transformation and unusual combinations of ideas.
  - use of color contrasts and increased proficiency with color mixing and combining.
  - expressive use of design elements for exaggerated effects.
  - use of correct design and media terms in written work.
  - completion of compositions, greater attention to overall effect of compositions.
- In discussion, listen for comments that show evidence of student's thinking about the purposes of imaginative art and invented worlds. Also listen for evidence that the student is considering and using alternative strategies in handling compositional problems.

Related Activities

Drawings - Articulate and Evaluate, Concepts A, D.
Compositions - Components 1, Concept B.
Encounters - Transformations Through Time, Concept B.

NOTE: The boxes on the following charts indicate objectives and concepts used in SAMPLE UNIT PLAN - GRADE 7 - "Fantastic Images".

Objectives and Concepts
Grade Seven

Drawings

STUDENTS WILL:

Record

RECORD SINGLE IMAGES AND SIMPLE UNITS.

Concepts:

A. Recording change and movement of figures is one of the purposes of drawing.

B. Describing the internal and external boundaries of forms is one of the purposes of drawing.

C. Describing the planes and volumes of forms is one of the purposes of drawing.

Investigate

SELECT AND IDENTIFY LINE, VALUE AND TEXTURE IN THE NATURAL AND MAN-MADE ENVIRONMENT FOR IMAGE-MAKING.

Concepts:

A. Lines can vary in direction, location, quality emphasis, movement and mood.

B. Value in drawing is affected by the qualities of surfaces and the qualities of light.

C. Texture, as the character of a surface, can be depicted in drawing by the arrangement of line and marks.

Compositions

STUDENTS WILL:

Components 1

[redacted]

Concepts:

[redacted]

B. Color schemes create certain moods in images.

[redacted]

Components 2

EXPERIMENT WITH TECHNIQUES AND MEDIA WITHIN COMPLETE COMPOSITIONS OF TWO AND THREE DIMENSIONS.

Concepts:

A. Sculptures can be formed using materials in additive and subtractive ways to demonstrate formal and informal balance.

B. Relief compositions can be assembled or formed using materials in additive or subtractive ways.

C. Two-dimensional materials can be used to make compositions demonstrating simple pictorial space.

Encounters

STUDENTS WILL:

Sources of Images

IDENTIFY SIMILARITIES AND DIFFERENCES IN EXPRESSIONS OF SELECTED CULTURAL GROUPS.

Concepts:

A. Symbolic meanings are expressed in different ways by different cultural groups.

B. Different cultural groups use different materials to create images or artifacts.

Transformations Through Time

RECOGNIZE THE SIGNIFICANCE OF THE VISUAL SYMBOLS WHICH IDENTIFY THE SELECTED CULTURAL GROUPS.

Concepts:

A. Artifacts can have religious, magical and ceremonial meanings.

B. Power and authority can be symbolized in various ways.

C. Visual symbols are used for identification and status by people in groups.

D. External influences may have modified the imagery of a cultural group over time.

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Communicate

BE EXPRESSIVE IN THEIR USE OF ELEMENTS IN THE MAKING OF IMAGES.

Concepts:

A. Mood or emotion in an image can be affected by the balance of values and the quality of lines.

B. Characteristic qualities of a person or object can be emphasized by the quality of line used in an image.

C. Unusual combinations of shapes can suggest the invention of fantasy or mysterious images.

D. Strong, definite use of line suggests energy and clarity of images.

Articulate and Evaluate

LEARN TO USE THE BASIC VOCABULARY OF ART CRITICISM IN DESCRIPTION OF THEIR WORK.

Concepts:

A. The skill of describing materials and techniques used in creating an image is part of learning to talk about art.

B. The skill of identifying design elements used in creating an image is part of learning to talk about art.

C. Identifying and discussing one's problems in drawing and composing images is part of learning to talk about art.

D. Discussing one's responses to one's own drawing and images is part of learning to talk about art.

Relationships 1

LEARN TO USE THE BASIC VOCABULARY OF ART CRITICISM IN DESCRIPTION OF THEIR WORK.

Concepts:

A. Terms describing materials, techniques, subject matter and design elements comprise the basic vocabulary of art.

B. Identifying problems associated with image-making is part of learning to analyze and criticize one's own art works.

Organizations 1

EXPLORE THE TRANSFORMATION OF FORM IN COMPOSITION: PROGRESSION, ALTERATION, FRAGMENTATION.

Concepts:

A. The concept of change over time can be expressed through a series of drawings.

B. Imaginary forms can be created by altering or recording parts of images.

Impact of Images

SEARCH FOR CONTEMPORARY EVIDENCE RELATING TO THESE STUDIES.

Concepts:

A. Religious, magical or ceremonial images used in contemporary society can be identified.

B. Authority, power or politics in contemporary society may be described in image form.

C. The ways people generate visual works can be influenced by a number of factors.

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Sample Unit Plan - **Grade 8 — "Seeing As An Artist"**

Theme:

Drawings: Seeing spaces and forms in fresh new ways.

Approach:

Have students find new subject matter for drawings, learn to talk about their drawings using appropriate terminology, and experiment with compositions using the design elements and principles with which they are most familiar.

Objectives: Students will:

1. use expressiveness in their use of elements in the making of images. (Drawings)

2. use the vocabulary of art criticism to develop a positive analysis of their work. (Drawings)

3. experiment with the transformation of space in compositions. (Compositions)

4. investigate form and structure of natural and man-made objects as sources of images. (Encounters)

Concepts:

- Line can be used freely and rhythmically to add mood or movement to a two-dimensional image.

- Points of view can be developed to express certain ideas such as mood or proximity in two-dimensional works.

- Dominant elements and principles or applications of media can be discussed by students in relation to the effective solving of their visual problems.

- Space can be altered or distorted for special effects in two-dimensional works.

- Skeletal structure effects the shape and surface of an object, artifact or the human figure.

- Mass structure has an effect on the shape and form of an object or artifact.

Motivation:

- Have students each bring a favorite object that "contains" or surrounds a volume of space: e.g., a box, backpack, cup, basket, baseball glove, pottery jar. This object will serve as the basic form and shape for all the drawings and compositions in this unit, so they should be cautioned to select something they find visually interesting or personally meaningful.

- Students will draw the object -

  a) as if they could shrink down and stand inside it.
  b) as if it grew to the size of a building.

2nd....

c) as if its form were suddenly "massive" - made of solid stone.
d) as if its form were suddenly "skeletal" - made of wire or spiderweb.

Resources:

A. Visual resources -

Massive images: Marisol - "The Family"; Brancusi - "Mlle. Pogany"; Egypt - "Seated Portrait of Khafre"; Delacroix - "Tiger Mauling a Wild Horse"; Oldenberg - "Soft Typewriter"; sculptures - buddhas, Henry Moore, Isamu Noguchi, Michelangelo's slaves; architecture - domes, stupas, Le Corbusier - "Notre-Dame-du-Haut".

Skeletal images: da Vinci - "Proportions of the Human Figure"; Parthenon, Notre Dame, Paris (flying buttress); P. Soleri - "Arcosanti II", 20th century city plan; drawings by Rubens, da Vinci; diagrams from science textbooks.

B. Readings -

(Students) - Exploring Visual Design Ch. 4, 5.
(Teacher) - Art Fundamentals ... Ch. 3, 5, 9.

C. Other materials -

A series of skeletal and massive objects, and objects that enclose space, for examples. Flashlights and a spotlight. Drawing materials. Camera to take slides of students' works and students' objects.

Study Approaches:

1. Select objects with holes or extensions into spaces (e.g., drying racks, scissors, cups, coat racks, umbrellas). Draw first the negative shapes surrounding and within them, then draw the objects themselves.

2. Make continuous line drawings of "your object" (from motivation). Use various drawing instruments (pencil, charcoal, felt-tip pen, chalk). Emphasize QUALITY OF LINE, CONTROL OF LINE. Draw from various viewpoints.

3. Draw the object from a "worm's eye view", a bird's eye view".

4. Students display their most successful drawing. They discuss in small groups, viewing their work as if they were "the Artist", the Responder or Consumer" or "the Critic", pointing out design elements, effective and less effective aspects.

5. Students make a distorted image of one of their drawings by using a distorted graph (uneven horizontal or vertical lines) with which to reproduce an initial drawing.

6. Make a series of drawings of skeletal objects - leaves and tree branches, skeletons, x-rays. Make "X-ray" drawings of the imaginary sub-structures of their familiar objects.

7. Have students dramatize "mass", then make drawings of "massive" objects - vegetables, stones, wood.

cont....

SAMPLE UNIT PLANS - Grade 8 (cont...)

8. Observe and discuss the suggested artworks (see resources that suggest massive or skeletal forms). Analyze the artists' portrayals of mass, space, structure, frame, point of view, exaggeration or distortion, simplification.

Duration: Four weeks.

Evaluation:

Use checklists, anecdotal records, small group critiques, quizzes and tests.

- The students' portfolios should include exploratory sketches, contour drawings and finished compositions. Drawings should show evidence of efforts to try distortion, exaggeration, use of imagination, changes in point of view.
- Look for a variety of kinds and quality of line in drawings; depictions of different volumes and surface.
- Look for efforts to express a deliberate mood - qualities of objects.
- Look for evidence of the understanding of the concept of internal skeletal support of forms.
- Listen for comments that contain evidence of knowledge of correct terms, understanding of simple design principles. Look for willingness to use appropriate terms in talking about their own works and the examples of historical works observed. Use tests or small group discussions to assess these.

Related Activities

Drawings - Investigate, Concepts A, B, C.
Encounters - Transformations Through Time, Impact of Images.

NOTE: The boxes on the following charts indicate objectives and concepts used in SAMPLE UNIT PLAN - GRADE 8 - "Seeing as an Artist".

Objectives and Concepts
Grade Eight

Drawings

STUDENTS WILL:

Record

EXAMINE AND SIMPLIFY BASIC SHAPES AND SPACES.

Concepts:

A. Shapes may be organic or geometric.

B. Geometric and organic shapes can be used to create positive and negative spaces.

Investigate

EMPLOY SPACE, PROPORTION AND RELATIONSHIPS FOR IMAGE-MAKING.

Concepts:

A. The size of depicted figures or objects locates those objects in relationship to the ground or picture plane.

B. Overlapping figures or objects create an illusion of space in two-dimensional works.

C. The amount of detail depicted creates spatial depth in two-dimensional works.

D. Parallel lines meeting at a vanishing point create linear perspective in two-dimensional works.

Compositions

STUDENTS WILL:

Components 1

CREATE COMPOSITIONS IN BOTH TWO AND THREE DIMENSIONS.

Concepts:

A. Two-dimensional tableaux can be used to depict groups of people in action.

B. Low relief tableaux can be used to depict groups of people in action.

C. Man-made or natural objects can be represented in a variety of three-dimensional media.

Components 2

EXPERIMENT WITH THE TRANSFORMATION OF SPACE IN COMPOSITIONS.

Concepts:

A. Three-dimensional figures or units may be presented as open forms.

B. Value or color can emphasize negative space over positive space.

C. Space can be altered or distorted for special effects in two-dimensional works.

Encounters

STUDENTS WILL:

Sources of Images

[illegible] AND MAN-MADE OBJECTS AS SOURCES OF IMAGES.

Concepts:

A. Skeletal structure affects the shape and motion of an object, artifact or the human figure.

B. Muscle structure has an effect on the shape and form of an object or artifact.

Transformations Through Time

COMPARE INTERPRETATIONS OF NATURAL FORM AND STRUCTURE IN THE CREATION OF MAN-MADE ARTIFACTS THROUGH TIME AND ACROSS CULTURES.

Concepts:

A. Comparisons between natural forms and architectural systems illustrate the functional aspects of natural structure.

B. Natural forms and structures have been interpreted by artists of various cultures for decorative and artistic purposes.

E. Proportion can be analysed by using a basic unit of a subject as a measuring tool.

F. The principles of repetition or emphasis can be applied to achieve unity in two-dimensional works.

Communicate

[redacted]

Concepts:

[redacted]

C. Scale drawings and simple systems can communicate architectural ideas in drawing form.

Articulate and Evaluate

[redacted]

Concepts:

A. Identifying and describing techniques and media is part of learning to talk about art.

[redacted]

C. Discussing the most appealing, or favorite part of a student's own work is part of learning to talk about art.

Relationships 1

INVESTIGATE THE USE OF PATTERN AND EMPHASIS IN THE CREATION OF COMPOSITIONS.

Concepts:

A. A pattern or motif can be repeated to create certain spatial effects.

B. Motifs can be designed to convey personal identity as in popular or folk-art images.

Relationships 2

[redacted]

A. Techniques and a media students have used to make their images can be identified and described.

[redacted]

C. Discussing the most appealing or favorite part of a student's own work is part of learning to talk about art.

Organizations 1

EXPERIMENT WITH VALUE, LIGHT, ATMOSPHERE, AND COLOR SELECTION TO REFLECT MOOD IN COMPOSITION.

Concepts:

A. Mood in composition can be affected by proximity or similarity of selected figures or units.

B. Mood in composition can be affected by the selection of various color schemes such as intense, aggressive schemes or harmonious, pastel schemes.

C. Mood in composition can be enhanced by the intensity of the light source and the value of the rendered shading.

Impact of Images

CONSIDER THE IMPACT OF NATURAL FORM AND STRUCTURE UPON HUMAN ACTIVITY AND TASTES IN THE MODERN WORLD.

Concepts:

A. Natural forms and structures provide sources for environmental design in the modern world.

B. Structural design of shelters may enhance or inhibit human activities.

C. Decorative and functional works enhance public and private buildings.

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SAMPLE UNIT PLANS

Sample Unit Plan - **Grade 9 — "The Artist's Changing View of Nature"**

Theme:

Encounters: Nature as a source of imagery.

Approach:

Have students identify certain features in historical imagery, then their own environment, then apply those concepts to their own compositions.

Objectives: Students will:

1. consider the natural environment as a source of image through time and across cultures. (Encounters)
2. identify thematic and stylistic variations of works as characteristic of certain artistic periods. (Encounters)
3. use expressiveness in their use of elements in the making of images. (Drawings)
4. employ and arrange elements and principles to make compositions. (Drawings)
5. investigate the effects of controlling color, space and form in respond to selected visual problems. (Compositions)
6. use the techniques of art criticism for analysis and comparison of art works. (Compositions)

Concepts:

- Images of nature change through time and across cultures.
- Landscape works of different periods reveal man's changing view of nature.
- A consideration of balance and contrast may be applied to drawings that depict forms in nature.
- Exaggeration of mood characteristics in drawings of nature and people can help to emphasize a personal viewpoint.
- Variation of form: natural objects exhibit wide variation of form within a single type.
- Control of space: a sense of distance or close proximity can be conveyed through the amount of detail used in compositions.
- Making comparisons about pictorial styles between one's own works and the works of other students is part of learning to talk about art.

Motivation:

- View and discuss a wide variety of landscape works: historical, contemporary, Oriental, Western, botanical drawings, photographs of local landscapes (see resources).
- Use Encounters study approaches to start discussions.

cont....

- Discuss the different ways artists have created the illusion of space and distance.
- Use magnifying glasses to view the surfaces of a variety of natural objects - seed pods, bark, shells, driftwood, stones.
- Point out the wide variations in surface pattern and texture between objects of a similar type. Look at the effects of erosion, decay, weathering on organic structures.
- Discuss the examples and study questions in the textbook. Part 30: The Environment: Landscape.

Resources:

A. Visual resources -

"Four Seasons" mural; O'Keefe - "Red Hills and Bones"; Van Gogh - "Cypresses"; Turner - "Snow Storm: Steamboat of a Harbour's Mouth"; Constable - "The Haywain"; Cezanne - "Mont-Ate. Victoire"; Carot - "Port of La Rochelle", Dutch landscape painters; Group of Seven; Alberta landscape painters; Emily Carr, Ernest Lindner; National Geographic and Scientific magazines - photographs of canyons, landforms, plants, seascapes, natural phenomena. Scientific drawings and photographs. Films about the Group of Seven, Emily Carr.

B. Readings -

(Students) - Discovering Canadian Art, pp. 73-75.
(Teacher) - Purposes of Art, Ch. 15.

C. Other Materials -

A collection of natural objects - driftwood, seed pods, pine cones, bark, shells, coral, interesting stones. Magnifying glasses. Drawing and painting materials.

Study Approaches:

1. Observe examples from many cultures of their treatment of landscape over time, animals, birds, plant life. Discuss why some cultures considered the environment benevolent while others saw it as threatening. Consider how these concepts of nature are depicted in their art forms. (Encounters)
2. Investigate the history of landscape painting in Western art. Consider the needs and attitudes of different historic periods (Renaissance, Baroque Romantic, late nineteenth century, Group of Seven, etc.) that may be symbolized in their landscape works. Use the techniques of art criticism to analyze the effect of location/geography on such things as mood, subject matter, effects of light, use of color. (Encounters)
3. Make outdoor drawings, take photographs, draw still-life arrangements of objects from nature. (Drawings)

cont....

SAMPLE UNIT PLANS - Grade 9 (cont...)

4. Draw a landscape from preliminary drawings in (3) above, but emphasize and highlight repetitious elements by the use of high contrast (rocks, trees, clouds). Make a written critical analysis of your work and its effective elements. Include in your portfolio. (Drawings)

5. Express mood in landscape: use the characteristics of weather/sky, light patterns, branches, topography - exaggerate to express mood, theme: threatening, calm, deep and dark, majestic, gentle, open, closed spaces. (Drawings)

6. Draw groups of shells, driftwood, seed pods:
   a) to emphasize slight variations of form,
   b) to emphasize patterned regularities of form.
   Develop into finished presentation. (Compositions)

7. Do close-up studies of single objects from (6) above, with a magnifying glass. Make a very large-scale drawing and include as much detail as possible. Turn a detailed drawing of the surface of above object into a fantasy landscape by including water, forests, landmarks, atmospheric details. (Compositions)

Duration: Six to eight weeks.

Evaluation:

Use checklists, class and small group critiques, anecdotal records.

- Portfolio should include sketches, close-up studies, and finished compositions. Drawings should show evidence of attempts to use effective balance and contrast, emphasis of unique qualities and details, differing view points, expressive lines and emphasis by exaggeration, attempt to create mood or atmosphere by use of some of the above devices, imaginative details in transformation of analytical drawing to fantasy landscape.

- Look for discussion participation, comments that indicate an understanding of Encounters concepts about varying relationships with, and depictions of the natural environment.

- Look for evidence of attempts to use the procedures of critical analysis in written and spoken comments about students' own works and the visual examples observed in class.

Related Activities

Cross reference to concepts dealing with pattern and motif invention, Encounters - Impact of Images, Compositions - Relationships - I (principles of dominance, emphasis, concentration), concept dealing with varying standards of beauty.

NOTE: The boxes on the following charts indicate objectives and concepts used in SAMPLE UNIT PLAN - GRADE 9 - "The Artist's Changing View of Nature".

Objectives and Concepts
Grade Nine

Drawings

STUDENTS WILL:

Record

RECORD OBJECTS ALONE AND IN COMPOSITIONS.

Concepts:

A. Careful observation of form and surface qualities is necessary for the realistic recording of natural objects.

B. Concepts of positive and negative space can be employed when drawing people in groups.

C. The illusion of depth is created partly by the kinds of lines and marks used in creating an image.

Investigate

[redacted]

Concepts:

[redacted]

B. Repetition of shape in nature can suggest patterns and motifs.

C. A changing point of view can allow a more thorough analysis of the subject matter of a drawing.

Compositions

STUDENTS WILL:

Components 1

CREATE COMPOSITIONS IN BOTH TWO AND THREE DIMENSIONS.

Concepts:

A. Manipulation of color emphasis can help express mood in two-dimensional compositions.

B. Organic shapes derived from natural objects can be developed into three-dimensional forms.

Components 2

BECOME FAMILIAR WITH THE USE OF TRANSPARENCY AND OPACITY IN THE CREATION OF COMPOSITIONS.

Concepts:

A. The qualities of transparency and opacity suggest relationships of space and form in compositions.

B. The qualities of transparency and opacity suggest the presence or absence of light in compositions.

COMPONENTS 3

[redacted]

Concepts:

[redacted]

Encounters

STUDENTS WILL:

Sources of Images

[redacted]

Concepts:

A. The human image changes through time and across cultures.

[redacted]

Transformations Through Time

[redacted]

Concepts:

A. A particular concept of beauty can be discerned in works of a specific historic period.

[redacted]

Impact of Images

BECOME AWARE OF THE IMPORTANCE SOCIETY PLACES UPON VARIOUS WORKS OF ART.

Concepts:

A. The ways people use art changes through time.

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Communicate

USE EXPRESSIVENESS IN THEIR USE OF ELEMENTS IN THE MAKING OF IMAGES.

Concepts:

A. The subjective perception of the individual student affects the way he/she expresses action and direction.

B. Mood and feeling as perceived by the individual student can be expressed in color drawings.

C. Exaggeration of mood characteristics in drawings of nature and people can help to emphasize a personal point of view.

Articulate and Evaluate

USE THE TECHNIQUES OF ART CRITICISM FOR ANALYSIS AND COMPARISON OF ART WORKS.

Concepts:

A. Making comparisons about mood and feeling between one's own works and works by other students is part of learning to talk about art.

B. Knowing the terms of design, media and techniques used in one's own drawings helps in description and analysis of one's own and others' work.

B. Control of color and space: certain colors advance or recede, according to the colors around them.

C. Control of space: a sense of distance or close proximity can be conveyed through the amount of detail used in compositions (micro-macro issue).

Relationships 1

EXPERIMENT WITH THE PRINCIPLES OF DOMINANCE, EMPHASIS AND CONCENTRATION IN THE CREATION OF COMPOSITIONS.

Concepts:

A. Cluster and concentration of design elements in compositions tend to suggest compression or movement.

B. Differences in size or value of design elements in compositions suggest dominance and emphasis of certain elements.

Relationships 2

USE THE TECHNIQUES OF ART CRITICISM FOR ANALYSIS AND COMPARISON OF ART WORKS.

Concepts:

A. Making comparisons about pictorial styles between one's own works and the works of other students is part of learning to talk about art.

B. Knowing the terms for design, media and techniques used in one's own compositions helps in description and analysis of one's own and others' works.

B. Society has various ways of preserving and displaying public and private art works.

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cont....

COMPOSITIONS (cont...)

Organizations 1

INVESTIGATE THE EFFECTS OF MODIFYING COLOR, SPACE AND FORM TO CHANGE PICTORIAL STYLE.

Concepts:

A. The same composition, when executed with different color schemes, communicates a different mood or feeling.

B. The same forms, when composed with different spatial relationships, present different visual effects.

Facilities, Equipment and Materials

An ideal facility for art instruction would provide the physical resources to accommodate all the goals of the art curriculum. Since this curriculum is not conceived as consisting of laboratory - studio activities exclusively, other requirements arise. The character of the activities envisioned in this guide necessitate an art room that affords safe and adequate studio facilities, ample display space, areas for viewing and discussing art works in large and small groups, and library research areas. Teachers and administrators should contact the regional consultants in Fine Arts, Alberta Education, for specific and current recommendations on facilities for art instruction.

Rooms and Spaces

1. Area - work space should be planned to accommodate a maximum of thirty students. Overcrowding interferes with both the safety of the program and effective teaching of the art curriculum. Storage space should be determined in addition to workspace on a per-student basis.

2. Location - on ground floor with access to deliveries.
   - northern exposure is desirable, and room should be isolated from regular classrooms (work noise is often a factor).
   - direct access to outdoors is desirable.

3. Floors - washable surface.

4. Doors - should have double doors to facilitate movement of equipment, and two exits.

5. Lighting - should have some windows and fluorescent full spectrum lighting. Blackout facilities are essential for viewing slides, films, and video.

6. Ventilation - windows that open; a fume exhaust hood (see Appendix K - Hazardous Art Materials and Occupational Safety).

7. Electrical - wiring should be 110 and 220 with several electrical outlets on different circuits.

8. Electronic - all appropriate jacks and outlets for electronic media (T.V., video, telephone, intercom, computer).

9. Teaching and research space - library space with work table, gallery/display areas, effective audio-visual viewing space, area for large and small group presentations.

10. Teacher's office space - for preparation and student-teacher conferences, with windows to the art classroom and telephone.

cont....

Rooms and Spaces (cont..)

11. Storage spaces - a lockable walk-in supply room with adjustable or modular storage units; also storage shelves and cupboards beneath counters in classroom. All storage spaces should be lockable due to community use of work-rooms. Adequate storage space should also be provided for reference materials, works of art, models, slides, and reproductions.

Display Space and Furniture

Display areas should accommodate both two and three dimensional works of various sizes.

1. Tackboard - should be in all available space.

2. Display shelves - adjustable shelves mounted on brackets.

3. Dropped ceiling hangers - for hanging 3-D works.

4. Outside the art room - display areas (tackboards, locking cabinets) should be located in other parts of the school, especially in hallways and common areas.

Classroom Equipment and Furniture

Sufficient equipment should be provided to allow for independent work on large and small scale projects in a variety of media. It is felt that the following are basic furnishings for a junior high school art room:

1. Sinks - two peninsular or island units with clay traps.

2. White board - minimum 1200mm x 1200mm.

3. Bookshelves - open shelves for reference books and textbooks.

4. Counter and cupboard storage - sufficient space space for art paper, drawing boards and supplies, projects in progress, audio-visual materials, models, art works and reproductions.

5. Steel cabinets - for storing hazardous materials.

6. Teacher's desk or demonstration table.

7. Filing cabinet.

8. Art tables - individual student tables with tilted tops or large work tables; with chairs or adjustable stools.

9. Easels - three large easels for painting and presentations.

10. Large paper cutter.

11. Tool cabinet - with hand tools.

12. Large wall screen.

cont....

Classroom Equipment and Furniture (cont...)

13. Slide projector/laser disc player/T.V. monitor/ computer.

14. Ceramic kiln - with automatic shut-off; kiln furniture. Kiln closet with exhaust system is recommended.

15. Garbage cans - metal for waste, plastic (with lids) for storage.

16. Clean-up equipment - broom, mop and pail, sponges, scrub brushes, dustpan.

17. Drying rack - metal.

18. First aid kit/eye wash station.

19. Paper towel dispensers.

20. Workbench with vise.

21. Fire extinguisher/fire blanket.

Further information:

Information on art room planning can be obtained from Planning Facilities for Art Instruction, National Art Education Association, 1916 Association Drive, Reston, Virginia, U.S.A. 22091.

See also Visual Arts and Crafts Facility Planning Alberta Culture, Visual Arts, 3rd Floor, Beaver House, 10158 - 103rd Street, Edmonton, Alberta T5J 0X6.

Art Materials and Tools

Ceramics

Clay - prepared
Canvas or cotton duck for tables
Modelling tools - manufactured, found objects
Glazes
Oxides
Kiln wash
Pyrometric cones
Sponges
Bamboo brushes
Plastic bags
Small plastic squeeze bottles
Plastic pails with lids for glaze storage
Kiln furniture
Rolling pin
Sieve
Heat resistant gloves
Wire clay cutters
Dipping tongs

Collage

Heavy backing sheets - cardboard, wood
White glue
Polymer medium (PVA)
Paste powder
Liquid starch
Found materials (see below).

Display

Cardboard display panels
Pushpins/straight pins
Matte board or heavy tag
Clear acetate sheets (to cover hall displays)
Gummed labels

cont....

Art Materials and Tools (cont...)

Drawing

- Drawing boards
- Charcoal sticks
- Conte sticks
- Pencils - hard and soft
- Pencil crayons
- India ink, colored inks
- Straight pens
- Felt tip pens - fine and thick
- Wax crayons
- Collection of found objects
- Oil and chalk pastels
- Magnifying glasses
- Newsprint
- Kraft paper
- Parchment
- Manilla paper
- Drawing paper
- Colored papers
- Fingerpaint paper (for felt tip pens)

Fibres

- Cotton (100% - bleached or unbleached)
- Burlap
- Sewing needles and pins
- Weaving needles or bodkins
- Thread
- Yarns, carded wool
- Fabric dyes and fixatives
- Batik wax
- Cotton string
- Fabric shears
- Embroidery hoops or wooden frames
- Plastic funnel
- Simple frame looms
- Iron
- Large plastic bottles
- Large plastic pails
- Measuring spoons and cups
- Rubber gloves
- Brushes, wax applicators/tjantings
- Electric fry pans

Found Materials

- Newspapers
- Magazines
- Paper bags, milk cartoons
- Cardboard boxes, tubes
- Wood scraps, masonite
- Large and small jars
- Styrofoam scraps
- Plastic bags, bottles, pails
- Roll ends from newspaper
- Rags
- Aluminum plates, foil plates
- Egg Cartons
- Bones
- Fabric scraps
- Yarn scraps, string, rope and cord
- Toothbrushes
- Old kitchen utensils, spools
- Foam rubber scraps
- Acoustic tile scraps
- Stones
- Shells
- Seed pods
- Dried flowers
- Driftwood
- Bark
- Gourds

Painting

- Brushes - small round
  - medium round
  - large flat
  - bamboo
  - medium flat
  - assorted wide
- Mixing trays, palettes
- Paint - tempera (block/powder/liquid)
  - acrylic
  - watercolor
- Glass/plastic containers
- Easels
- Paper - manilla
  - cover
  - kraft
  - water-color

Art Materials and Tools (cont...)

General

Papers - Newsprint
Manilla
Cartridge
Finger paint
Construction
Cover paper
Tissue
Kraft
Butcher roll
Crepe
Cardboard
Manilla tag
Mayfair
Scissors
Straight pins
Thumbtacks
Staples
Nails
String
Glue - white
T-square
Paste
Cellophane tape
Masking tape
Glue sticks
Hammer
Wire cutters
Screwdriver
Handsaw
Pliers
Rulers
Exacto knives
Utility knife
Geometry instruments
Sponges
Hand cleaner
Soap
Paper towels
Detergent
Stain remover
Powdered cleanser

Photography

Inexpensive cameras
Film
Photographic processing chemicals, equipment (note hazards)
Photo paper

Printmaking

Linoleum
Soft wood blocks
Carving tools
Printing inks (water-based)
Silkscreen fabric, frames
Solvents (note hazards)
Inking boards
Brayers
Squeegees
Drying racks or lines
Roller press (positive feed)

Sculpture and Construction

Plaster of Paris
Ceramics materials
Wire
Sandpaper
Wallpaper paste
Newspapers
Modelling clay
Straws
Sticks, toothpicks
Adhesives, tapes, glue
Found materials
Plastic pails
C-Clamps
Files
Chisels, gouges
Mallets, hammers
Sponges
Modelling tools (manufactured and found)
Cardboard boxes, sheets, tubes
String
Knives, utility knives

Art Displays, Art Shows and Art Contests

The opportunity to display art products to classmates, the school, and the community is an important aspect of students' experiences in an art program. Art displays and shows underscore the importance of art-making as visual communication, and allow other members of the school and community to see the results of art room activities. Art contests are contrary to the philosophy and goals of Alberta Education curricula. Displays, shows and contests are different in purpose and can be considered as follows:

- Art Displays

Displays of students' art works within the art room and school are important for meeting the goals and objectives of this program. Within the art room, they facilitate the learning of descriptive, analytical and evaluative skills: by displaying and discussing their works in large or small groups, the students develop knowledge of composition and techniques, learn art vocabulary, and learn to identify and describe both problems and successes in their own work and others. Art displayed in other parts of the school gives students of the art program a sense that their own art works have value and significance to the school as a whole, and enhances the role of the art program in enriching the general school environment.

It is important, therefore, that the work of each student is displayed as frequently as possible, and that displays are changed on a regular basis to allow all students to have an opportunity to show their work. Reproductions of well-known art works that contain concepts, subjects or techniques similar to those employed in the students' works could be included in displays. Students should have an opportunity to plan and mount displays, and written explanations should be included when appropriate.

Within the art room, displays offer an opportunity to formalize sessions in Drawings, Compositions and Encounters where visual, analytical and critical skills are to be developed.

- Art Shows

Art shows are the appropriate forum for the display of student works in more formal circumstances. Art shows are mounted for special purposes or to accompany special events in the school or community such as concerts, festivals or athletics. They take on some of the characteristics of the equivalent museum or gallery shows, with special displays, catalogues of artists and works, and labels. Collective shows between several schools or a whole school district are a possibility. The essential element of art shows as well as displays is <u>open participation</u>. Although art shows may have criteria of theme, medium, or available space, there is no judgement of students' individual expressive or technical abilities, and a few selected students are not singled out for recognition over and above their classmates.

cont....

- **Art Contests**

Competitions are often organized in conjunction with special school events. Although art contests are often devised by people with intentions of fostering creative activity, they cannot be justified in educational settings. They present standards external to school programs and single out a few students for recognition. The policy statements of the Canadian Society for Education Through Art explain the reasons why art educators are united in their attitude toward the negative effects of art competitions on students.

- Of the children selected to enter competitions, few are rewarded.

- In competitions, judges not conversant with child development and expression may base decisions on adult standards.

- In competitions, there is a danger of adults interfering with the child's stage of development, or children may be encouraged to copy.

- Competitions undermine co-operation and thereby defeat the purpose of any worthy cause.

- Many children's hopes or expectations are shattered when a very few are singled out for recognition.

- Competitions promote unrealistic expectations of children.

Instead, the C.S.E.A. advocates holding exhibitions or displays that promote the objectives of the total curriculum and allow all students to participate.

Careers in Art

The focus of the secondary art program is to develop the competency and interest of students in the expressive and reflective aspects of the visual arts through experiences in a sequential program. Students who have successfully completed this program can be expected to possess visual skills useful to comprehending and articulating visual images. Most students who undertake the program will be likely to continue to enjoy and, through their critical abilities, comprehend the visual arts of their own and others' societies.

As well, some students are likely to consider further post-secondary training and study in the visual arts. The best-known career in art is that of the professional artist, however, this is only one of the many possible art-related careers. In order to consolidate learning experiences and activities into a direction or goal for the future, students may wish to learn about the varieties of careers available. Teachers can assist students, many of whom may possess distinctly different art abilities or interests, to become familiar with possible educational routes available to their chosen careers.

Some of the many careers which utilize art skills and training are:

Antique Restorer
Architect
Animator
Artist's Agent
Art Consultant
Art Editor
Art Designer
Art Director
Art Publisher
Art Salesman
Art Teacher
Art Therapist
Cabinet Maker
Calligrapher
Caricaturist
Ceramicist
Choreographer
Cinematographer
Combat Artist
Commercial Photographer
Color Consultant
Costume Designer
Crafts Counselor
Curator
Design Consultant
Design Engineer
Designer in Glass
Display Artist
Dressmaker
Draftsman
Exhibition Designer
Fabric Designer
Fashion Designer
Fashion Photographer
Field Exhibition Artist
Film Editor
Film Maker
Foundry Artist
Functional Designer
Furniture Designer
Gallery Director
Gallery Educator
Graphic Designer
Greeting Card Designer
Hair Stylist
Illustrator
Industrial Designer
Industrial Photographer
Interior Designer
Jeweler
Jewelery Designer
Landscape Artist
Layout Artist
Leather Craftsman
Letterer
Lighting Consultant
Lithographer
Make-up Artist
Marine Illustrator
Market Illustrator
Medical Illustrator
Metal Worker
Model Maker
Mock-up Worker
Model Maker
Mock-up Artist
Muralist
Museum Educator
Package Designer
Painter
Paste-up Artist
Photographer
Photography Editor
Photo Retoucher
Political Cartoonist
Printmaker
Printer
Publicity Director
Upholsterer
Researcher
Restorer
Science Designer
Scientific Photography
Sculptor
Serigrapher
Set Designer
Sign Painter
Special Effects Designer

cont....

CAREERS IN ART (cont...)

Stained Glass Designer	T.V. Animator
Stylist	T.V. Background Artist
Teaching Aids Artists	T.V. Director
Technical Illustrator	Visual Aids Artists
Textbook Illustrator	Weaver
Textile Designer	Window Decorator
Tool Designer	Woodcarver

In Alberta, the main schools that provide extended education in art after secondary school are: The Alberta College of Art, Calgary; The University of Alberta, Edmonton; The University of Calgary; The University of Lethbridge, and The Banff Centre School of Fine Arts. Community colleges and technological institutes have programs leading to qualification in arts related careers.

Several resources are available to provide further information about the variety of arts related occupations.

1. Career Education and the Art Teaching Profession (Monograph No. 1), Career Education in the Visual Arts: Representative Programs and Practices (Monograph No. 2) and Careers in the Visual Arts: Options, Training and Employment (Monograph No.3) - 1980.

   Available from National Art Education Association
   1916 Association Drive
   Reston, Virginia,
   U.S.A. 22091

2. Brommer G. and J. Gatto. Careers in Art: An Illustrated Guide. Worcester, Mass.: Davis Publications, 1984. Distributed in Canada by Fitzhenry and Whiteside.

Glossary

The terms in this glossary are defined according to the purposes of this curriculum guide.

Abstraction, Abstract - terms given to forms created by the artist but usually derived from objects observed or experienced. Usually involves simplification or rearrangement, often to the point where the forms seem to have little relationship to things in the natural environment. (See Non-Objective)

Additive - a sculptural term meaning built-up, assembled or attached.

Alteration - distortion, exaggeration or rearrangement of the parts of a realistic image to create a new form.

Analogous Colors - closely related colors; those that are adjacent to each other on the color wheel (e.g., yellow-orange).

Analytical Drawing - making careful observations of the subject while it is being drawn; thorough attention to particular characteristics of the subject matter.

Analytical Skills - skills that enable students to compare and contrast ideas about art and component parts of art works; skills that enable students to apply concepts they know to problems presented in art activities to arrive at successful solutions and conclusions.

Arch - a structural component of a building that permits the spanning of a greater space between supporting members of the building than could a lintel (see post-lintel).

Armature - a support, usually wire, upon which a sculpture is constructed.

Art Criticism - the practice of forming interpretations and making critical judgements about art.

Artifact - an object made by human effort, usually having some aesthetic properties.

Assemblage - an art technique that utilizes found materials in a combination of collage, painting and sculpture.

Atmospheric Perspective (aerial perspective) - the illusion of deep space produced in 2D works by lightening values, softening contours, reducing value contrasts and neutralizing colors in objects as they recede.

Automatic Drawing - spontaneous, expressive drawing that is intended to record impulses and impressions rather than details (see Gesture drawing).

Axial - having, or relating to an axis. In design, a form that is bisected by a straight line.

cont....

GLOSSARY (cont...)

Barrel Vault - an arched roof fashioned of stone, brick or concrete that is an extension of the round arch.

Bimodal - in design, a form that is separated into two distinct, but balanced portions.

Bas Relief - a type of sculpture in which limited, or low depth is given to two-dimensional images.

Calligraphic Line - any controlled, flowing, continuous use of line in painting, drawing and sculpture; the character and quality of an artist's linear work.

Cantilever - in architecture, a lintel extending beyond its supports.

Closed Forms - forms that appear massive, lacking any significant extension or intrusion of negative space.

Collage - an art form in which the artist creates the image, or a portion of it, by adhering real materials that possess actual textures to the picture plane surface.

Color Scheme - an orderly selection and arrangement of colors whose relationships affect the character of the art product.

Color Wheel - a circular system devised to show the continuous relationships of the primary, secondary and tertiary colors of the spectrum.

Complementary Colors - two colors that are directly opposite each other on the color wheel. A primary color is complementary to a secondary color that is a mixture of the two remaining primaries (e.g., red is complementary to green, which is a mixture of yellow and blue).

Components - the elements of a work of art that comprise a composition.

Composition - the act of organizing all of the elements of a work of art into a harmoniously unified whole. Each element used may have particular characteristics that create interest, but must function in such a way that the whole composition is more important than its parts.

Concentration - the clustering or unequal distribution of some elements of a composition within the picture plane.

Concept - a comprehensive idea or generalization that brings diverse elements into some basic relationship.

Conservation - the scientific practice of preserving artifacts in a condition that as closely as possible equals their original state.

Construction - the process of making a sculpture by assembling and joining a wide variety of materials, such as wood, cardboard, plastic, paper and metal.

cont....

GLOSSARY (cont...)

Continuous Line - slow, analytical drawing that describes the contours and surfaces of an object with a single continuous motion of the drawing instrument (see Contour).

Contour - Contour drawing describes the edges and surfaces of an object in relation to its occupied space (see Continuous Line).

Contrast - emphasize differences or opposition of elements in a work of art.

Critic - someone who interprets and evaluates works of art. Critical skills include abilities to describe the content, meanings, and purposes of art works, and to judge their effectiveness in conveying meaning.

Cross-Hatching - a method of drawing using many overlapping sets of parallel lines to create value differences.

Culture - the values and the relationships between values that inform a society, motivate its behavior, cause it to be functional to the general satisfaction of its members and give the society a distinctive quality and character.

Cursive Line - a drawing technique having a quality similar to that of handwriting.

Curvilinear - stressing the use of curved lines as opposed to rectilinear, which stresses straight lines.

Decorative - the quality that emphasizes the two-dimensional nature of any of the visual elements. Decoration enriches a surface without denying the essential flatness of its nature.

Design - the planned organization of a composition.

Diorama - a three-dimensional scene within a confined area.

Distortion - a change made by an artist in the size, position or general character of forms based on visual perception, when those forms are organized into a pictorial image.

Dominance - the principle of visual organization that suggests that certain elements should assume more importance than the others in the same compositions. Dominance contributes to unity because one feature is emphasized and other elements are subordinate to it. (See Emphasis)

Elements of Design - the basic visual signs as they are combined into components used by the artist to express creative ideas. The basic elements are line, shape, value, texture, space and color.

cont.... 63

GLOSSARY (cont...)

Emphasis - a principle of design that establishes importance, attention or significance; a relationship between dominant and subordinate elements in composition (see Dominance).

Environmental Design - the planned organization of human environmental spaces; it involves any of: architecture, landscape design, interor design, urban planning, ergonomics, industrial design of fixtures for human spaces.

Exaggeration - extreme emphasis, and/or distortion in composition.

Expression - the special characteristics of form that mark the work of an artist or group of artists. Expressive content is the meaning and significance of art produced by the fusion of form and subject. Strongly emotional or intellectual content in works is called expressive.

Figure-Ground - a phrase referring to a spatial relationship between forms and the backgrounds against which they have been placed (see Positive-Negative Space).

Focal Point - the centre of interest or attention in a work of art.

Foreground - in 2D works, the space depicted as nearest to the viewer.

Foreshortening - the apparent visual compression or distortion of forms in a composition to indicate depth in space.

Form - a shape or mass; also the total configuration of the shapes, structures, and expressiveness that comprise a work of art.

Formal Balance - an orderly organization of components in a composition that usually incorporates axial symmetry of forms. (Symmetrical)

Fresco - a process of painting on plaster, either dry or wet, where pigments are mixed with water and are chemically bonded to the plaster; the process was perfected during the Italian Renaissance.

Frottage - an image created by rubbing a soft drawing instrument on the surface of paper which covers a textured surface.

Genre - subject matter that concerns everyday life, domestic scenes, sentimental family relationships, etc.

Geometric Shapes - shapes created by the exact mathematical laws of geometry.

Gesture - action drawing created rapidly and sketchily, capturing the movement or position of a given subject.

cont....

GLOSSARY (cont...)

Graphic Design - a term usually used to describe typographic design, advertising design and the technology of printing.

Grid System - a system of parallel, evenly spaced horizontal and vertical lines to create a graph on an image. The visual information within each block of the graph can then be transferred to a graph of different dimensions to enlarge, reduce or distort the image.

Ground - the surface on which an artwork is made.

Harmony - the unity of all the visual elements of a composition, achieved by repetition of the same or similar elements.

Hatching - a method of drawing using close groupings of short parallel lines.

Horizontal Line - the line that suggests the boundary between earth and sky in a 2D work employing linear perspective. It is often implied rather than deliberately drawn.

Illustration - an art practice that stresses anecdotes or story situations; the content is usually readily recognized and narrative (describes events).

Image - a mentally envisioned thing or plan given concrete appearance through use of an art medium; also, the general appearance of a work.

Impasto - a particularly thick or heavy application of paint.

Informal Balance - an equal distribution of emphasis, or unity, of the various visual elements in a composition without the use of symmetry (see Formal Balance). (Asymmetrical)

Intaglio - a printing process where the printing ink is forced down into the printing surface.

Intensity - the saturation or strength of a color determined by the quality of light reflected from it (the brightness or dullness of a color).

Juxtaposition - the state developed between objects in close spatial relationship.

Layouts - rough plans for a work of art.

Line - a record of a point moving through space (may be actual or implied); the path made by a tool or instrument as it is drawn across a surface.

Linear Perspective - using lines to create the illusion of a three-dimensional space on a two-dimensional surface.

Lintel - in architecture, a crosspiece supported by pillars or walls.

cont....

GLOSSARY (cont...)

Lithography - the process of printing from a smooth limestone or metal plate on which the image to be printed is ink-receptive and the blank area ink-repellant.

Maquette - a small scale plan of a sculpture.

Mass - the physical bulk of a solid body of material; the appearance of weight or volume of matter in space.

Matte - a smooth but not shiny surface.

Medium, Media - the materials and tools used by the artist to create the visual elements perceived by the viewer of the work of art. Mixed media: artwork that uses a combination of media.

Metamorphosis - a series of drawings that describes and records the real or imagined changes in objects over time.

Mobile - a balanced construction with moving parts, suspended from above, and moving freely in the air currents.

Modelling - a sculptural term meaning to shape a pliable material.

Modular Units - basic units of measure taken as a principle for determining the major divisions and proportions of an object, building, figure or site.

Monochrome - a single color or the value variations of a single hue.

Monoprint - the technique whereby it is possible to make only one print by transferring an image from an inked surface to a blank one.

Montage - a composition produced by overlapping, joining and pasting pictures or portions of pictures onto a flat surface.

Mood - a feeling or sense conveyed by an art-work as a result of the handling of the elements of the work.

Motif - a visual element or combination of elements that is repeated often enough in a composition to make it the dominant feature of the artists' expression.

Movement - direction and degree of energy implied by art elements in specific pictorial situations; amounts of visual thrust produced by such matters as dimension, placement, and accent.

Mural - a wall painting.

Negative Space - the unoccupied or empty space left after the positive shapes have been placed by the artist.

cont....

GLOSSARY (cont...)

Non-objective - an approach to art in which the visual signs are entirely based on imaginative or technical derivations and not derived from anything ever seen by the artist. The shapes, their organization, and their treatment by the artist are entirely personalized and consequently not associated by the observer with any previously experienced natural form.

Objective Color - the naturalistic color of an object as seen by the eye (green grass, blue sky, etc.)

Opacity - the opaque quality of an object or artistic medium; that objects impermeability to light.

Open Form - a quality of three-dimensional complexity involving considerable extension into space, producing a feeling of openness.

Optical, Optical Perception - a way of seeing in which the mind functions to provide the physical sensation of recognition of form, as opposed to conceptual perception, or the artist's imaginative and interpretive vision.

Organic - pertaining to nature, natural objects, or living things. Organic forms are often irregular and contrasted with geometric or man-made forms.

Palette - a board or other device upon which colors are mixed; the group of colors used by an artist in a given composition.

Pattern - the repetition of elements or the combinations of elements in a regular, systematic organization.

Perception - the act of taking notice; recognition of an object, quality or idea through the use of the physical senses and/or mental faculties.

Perspective - a mechanical system of creating the illusion of a three-dimensional space on a two-dimensional surface.

Picture Plane - the actual flat surface on which the artist creates a pictorial image.

Pigment - a color substance, usually powdered, which becomes paint or ink when mixed with a liquid in which it is partially soluble.

Pointillism - the technique of applying dots or tiny strokes of color to the surface so that when seen from a distance the colors are perceived as blended.

Positive Space, Positive Shapes - the enclosed areas that represent the initial selection of shapes planned by the artist.

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GLOSSARY (cont...)

Pottery - an object made of earthenware and hardened by firing.

Primary Colors - the three basic colors of the spectrum that cannot be produced by mixing pigments; red, yellow, and blue.

Print - to transfer an image from one surface to another.

Proportion - the comparison of elements of a composition to one another in terms of their properties of size, quantity and degree of emphasis.

Proximity - the relative distance or closeness of elements of a composition to one another.

Radial Balance - two or more identical forces distributed around a centre point to created a repetitive equilibrium or balance.

Realism - forms of expression that retain the basic impression of visual reality.

Relief Sculpture - partial projection from the main mass (see Bas-relief).

Repetition - the repeated use of the same visual element a number of times in a composition.

Representation - a manner of expression in which the subject matter is presented so that visual forms are related to actual forms experienced by the viewer.

Restoration - the science of repairing works of art so that they recover, as much as possible, the qualities they possessed when they were first made.

Rhythm - repeated elements of design in a composition that create harmonious movement.

Rubbings - images produced by rubbing a soft drawing instrument over paper placed against a textured surface (see Frottage).

Scale - Relative or proportional size.

Sculpture, Sculpting - the art of shaping three-dimensional forms.

Secondary Colors - colors created by the equal combination of two primary colors: orange, green and purple.

Serigraphy - printmaking using the silk screen process.

Shade - the dark values of a color made from the combination of the pure color and amounts of black.

Shape - an area that is differentiated from the space around it because of a defined boundary or a difference in value, color, or texture.

Skeletal - the quality of an object that contains a rigid inner support that determines the outward form of the object.

cont....

GLOSSARY (cont...)

Space - An extent, measurable or infinite, that can be understood as an area or distance; an empty volume to be occupied by a form, to be used positively or negatively in relation to that form.

Spatial Depth - space possessing thickness as well as length and breadth; a pictorial illusion that suggests recession of forms into space.

Spinal - in design, forms that are connected along a common, central line or axis.

Stencil - a thin sheet of paper, metal or plastic film cut to leave openings through which color can be transferred to a surface beneath (positive or negative spaces).

Still-Life - an arrangement of inanimate objects such as fruit, flowers, or pottery used as the subject of a work of art.

Structure - a building or constructed architectural unit; the compositional relationships in an art work.

Subjective Colors - colors chosen by the artist without regard to the natural appearance of the object being portrayed; these colors represent the artists' expression.

Subtractive Sculpture - a sculptural technique meaning carving, cutting or removing portions of the sculptural material.

Surrealism - An artistic style that emphasizes fantasy, imagination and subconscious experience.

Symbol - a form, image, sign or subject standing for something else; often a visible suggestion of something invisible.

Symmetry - a form of balance made by the repetition of exactly similar parts facing each other or a center.

Tableaux - a scene of people interacting in some way that has been chosen by the artist for its visual impact or emotional meaning, e.g., a moment in a play, ceremony or sports event.

Tactile - a quality that refers to the sense of touch.

Technique - the manner and skill with which artists employ their tools and materials to achieve a predetermined expressive effect.

Tempera - a painting technique using pigment mixed with a binder such as egg yolk, glue, starch or casein.

Template - shaped flat material used as a pattern to reproduce the outline of that shape many times.

cont....75

GLOSSARY (cont...)

Terra Cotta - Low fire red clay, generally unglazed.

Tertiary colors - colors made by combining a primary and a secondary color, e.g., red-orange.

Texture - the actual or implied tactile quality of a surface, e.g., smooth, rough, soft, hard.

Theme - the meaning of a work of art.

Three-Dimensional - having dimensions of length, width and depth.

Tint - the light values of a color made from the color and varying amounts of white.

Tone - the character of color or value of a surface determined by the amount and quality of light reflected from it.

Transparency - circumstance in which a distant plane or surface can be seen through a closer plane.

Two-Dimensional - having dimensions of length and width.

Unity - the total effect of a composition that results from the combination of all the works components.

Value - the relative degree of lightness or darkness attributed to an area or color by the amount of light reflected from it.

Vanishing Point - imaginary point used in linear perspective as the convergence of all lines that recede into space.

Volume - any three-dimensional quantity that is bounded or enclosed, whether solid or void.

Wash - watered-down pigment that has a transparent quality over opaque lines and colors.

Watercolor - pigments mixed with water-soluble gum and applied to paper.

Woodcut - print made from a wood block into whose surface an image has been carved.

Reference

Elsen, A. Purposes of Art

Ocvirck, O. et al. Art Fundamentals: Theory and Practice 4th ed.

Calgary Public School System Curriculum Outline (7-9).

Index to Resources

A. Materials Cited in "Resources" Sections of Concept Pages.

A.1 Print Resources: Prescribed, recommended and cited texts and books.

A.2 Visual Resources: Slide form of art works cited.

B. Additional Print Resources: Names, Addresses, and Materials Description.

C. Additional Visual Resources: Names, Addresses and Materials Description.

C.1 Slide Resources.

C.2 Art Works and Art Reproductions.

C.3 Audio-visual Materials (loan rental, purchase).

D. Personnel, Centers, Organizations and Institutions: Names, Addresses and Brief Description.

Resources

A. Materials Cited in "Resources" Sections of Concept Pages

A.1 Print resources: prescribed, recommended and cited texts and books.

Albers, J. — Interaction of Color. New Haven: Yale U. Press, 1963.

Bennett, B. and Hall C.P. — Discovering Canadian Art: Learning the Language. Scarborough, Ontario: Prentice-Hall, Canada, Inc., 1984.

Betti, C. and Sale T. — Drawing: A Contemporary Approach. Toronto: Holt, Rinehart and Winston, 1980.

Brommer, G. and Horn, G. — Art: Your Visual Environment. Worcester, Mass.: Davis Publications, 1977.

Chaet, B. — The Art of Drawing. New York: Holt, Rinehart and Winston, Inc., 1970.

Chapman, L. — Approaches to Art in Education. New York: Harcourt Brace Jovanovich, 1978.

Collier, G. — Form, Space and Vision. 3rd ed. Toronto: Prentice-Hall, 1972.

Cornell, S. — Art: A History of Changing Styles. Englewood Cliffs, N.J.: Prentice-Hall, Inc. 1983.

Cultural Heritage Branch — Profiles. Provincial Museum of Alberta, 1984.

Cunningham, L. and Reich, J. — Culture and Values. Volumes I & II Toronto: Holt, Rinehart and Winston, 1982.

Edwards, B. — Drawing on the Right Side of the Brain. Los Angelos: J.P. Tarcher, Inc., 1979.

Elsen, A. — Purposes of Art. 4th ed. Toronto: Holt, Rinehart and Winston, 1981.

Fleming, W. — Arts and Ideas. 6th ed. Toronto: Holt, Rinehart and Winston, 1980.

Feldman, E. — Varieties of Visual Experiences. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1972.

Gardner, H. — Art Through the Ages. 7th ed. Toronto: Harcourt Brace Jovanovich, Inc., 1980.

cont....

RESOURCES (cont...)

Gatto, J. Porter, A., and Selleck, J. — Exploring Visual Design. Worcester, Mass.: Davis Publications, 1978.

Hanks, K. and Belliston, L. — Rapid Viz. Los Altos, Calif.: Wm. Kaufmann, Inc., 1980.

Hobbs, J. — Art in Context. 2nd ed. Toronto: Harcourt Brace Jovanovich, Inc., 1980.

Janson, H.W. — A Basic History of Art. 2nd ed. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1981.

Laseau, P. — Graphic Thinking for Architects and Designers. New York: Van Nostrand Reinhold, 1980.

Note: Teachers should supplement examples in this book with examples of successful female artists and designers.

MacNair, P., Hoover, A. and Neary, K. — The Legacy: Continuing Traditions of Canadian Northwest Coast Indian Art. Victoria, B.C.: Provincial Museum, 1980.

Mendelowitz, D. — Guide to Drawing. New York: Holt, Rinehart and Winston, Inc., 1976.

Ocvirk, O., Bone, R., Stinson, R. and Wigg, P. — Art Fundamentals: Theory and Practice. 4th ed. Dubuque, Iowa: Wm. C. Brown, 1981.

Peterson, A. — Art Basics +. Toronto: Gilbert Associates, 1973.

Richardson, J — Art: The Way It Is. 2nd ed. Engelwood Cliffs, N.J.: Prentice-Hall, Inc., 1980.

Riddell, B. — Art in the Making. Milton, Queensland, Australia: The Jacaranda Press, 1982.

Rottger, E. and Klante, D. — Creative Drawing: Point and Line. (out of print) New York: Reinhold Publishing Corp., 1962.

Roukes, N. — Art Synectics. Calgary: Juniro Arts Publications, 1982.

Simmons, S. and Winer, M. — Drawing: The Creative Process. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1977.

Tritten, G. — Teaching Color and Form in Secondary School Art. New York: Van Nostrand Reinhold, 1971.

Wong, W. — Principles of Two Dimensional Design. Toronto: Van Nostrand Reinhold, 1972.

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RESOURCES (cont...)

A.2 Visual resources: slide form of art works cited.
Packets A, SEVEN, EIGHT, and NINE are listed.
The slide packets are available from the:

School Book Branch
10410 - 121 Street
Edmonton, Alberta
T5N 1L2 Tel. No. 427-2767

The availability of sufficient and appropriate visual images has been a concern to all art teachers. At present, a laser disc collection of images is being developed by the Department of Education. This collection will make available an extensive body of images in a permanent record-like format that will be accompanied by a computerized catalogue. The images are being selected from slide collections of art works of all periods throughout time and across cultures. When the development and the production of the discs is complete, school boards will be notified. Information about the laser disc visual encyclopedia and the equipment necessary to play the disc can be obtained by contacting:

M. Lyseng
Learning Resources Officer
West Tower, Devonian Building
11160 - Jasper Avenue
Edmonton, Alberta

An interim visual collection of slides has been developed for use with the junior high art curriculum. This collection of slides is subdivided into four packets. In order that teachers can best select the packet, or combination of packets, most useful to their particular program, a description of the slide packet contents follows.

Packet A contains slides that display visual examples for at least 75% of the concepts in each of grade seven, eight and nine. There are 38 slides in this packet.

The remaining three packets (SEVEN, EIGHT and NINE) can be used to demonstrate concepts more specific to each grade level. Slides from these packets are also listed in other grade 'Resource' sections. As a result, the teachers that acquire all four packets are given initial, although by no means definitive, groupings of images with which to teach visual concepts. Packet SEVEN has 19 slides, Packet EIGHT has 23 slides, and Packet NINE has 27 slides.

In the lists following this introduction, information regarding artist, title of work, date and medium can be found. The cross-referencing of the slides throughout the curriculum has also been listed for each grade, and for each division (Drawing, Compositions or Encounters). The number of times a slide has been cited in the division is also listed (e.g., C-3: Compositions, three times).

For instance, three self-portraits by Rembrandt are listed in Packet SEVEN. By referring to the cross-reference lists, the teacher will discover that these works are cited in one Compositions concept (C-1) and one Encounters concept (E-1) in grade seven. These particular works are also to be found in one Encounters concept in grade nine. The number of times a slide is cited in different dimensions and different grade levels will hopefully be useful to teachers in developing curricular units that 'spiral' through the objectives.

PACKET 'A'

NOTE: DR : DRAWINGS; C : COMPOSITIONS; ENC : ENCOUNTERS

ARTISTS	TITLE	YEAR	MEDIUM/SIZE	GRADE/DIVISION, LOCATION(S), AND NUMBER OF TIMES CITED IN CONCEPTS		
				7	8	9
Bellows, G.	'Dempsey and Firpo'	1924	Oil	C(1)	C(2)	ENC(2)
Brancusi, C.	'Mme Pogany'	1912	Bronze / 44cm	C(1); ENC(1)	C(1); ENC(1)	C(1); ENC(2)
Calder, A.	'Lobster Trap and Fish Tail'	1939	Steel wire, aluminum / 2.59 x 2.9m	C(1)	C(2)	C(1); ENC(2)
Cezanne, P.	'Boy with a Red Vest'	1890-95	Oil	C(1); ENC(1)		C(1); ENC(1)
da Vinci, L.	'Five Grotesque Heads'	1490	Pen/Ink	DR(1)	ENC(1)	DR(1); ENC(1)
Dali, S.	'Persistence of Memory'	1931	Oil / 24 x 33cm	C(1)	C(1)	
Degas, E.	'Dancers Practising at the Bar'	C.1876	30" x 32"	DR(1); C(2)	DR(2); C(1)	DR(3); C(1)
Delacroix, E.	'Tiger Mauling a Wild Horse'	1828	Pencil	DR(1)	DR(1); ENC(1)	DR(1)
Egypt	Old Kingdom 'Khafre-Seated Portrait'	2780-2565 BC	Diorite / 66" high	ENC(2)	C(1); ENC(1)	ENC(2)
Gericault, T.	'Two Horses Cavorting'	1818	Pencil	DR(1)	DR(1)	DR(1); ENC(1)
Goya, F.	'Shootings of May 3, 1808'	1814	Oil / 8'8" x 11'3"	C(1)	C(2)	C(1); ENC(1)
Graves, M.	'Joyous Young Pine'	1944	Painting	DR(1)	DR(1); ENC(1)	DR(1); ENC(2)
Greek	Hellenistic 'Dying Gaul'	197-241 BC	Marble	ENC(1)	C(1); ENC(1)	ENC(1)
Greek	Hellenistic 'Nike of Samothrace'	III/II C. BC	Marble / 2.4m	ENC(1)	C(1); ENC(1)	ENC(2)
Hopper, E.	'Night Hawks'	1942	Oil / 33" x 60"		C(1)	DR(1); ENC(1)
Ingres, J.	'Portrait of M. Guillon-Lethiere'	1815	Drawing	DR(1); ENC(1)	ENC(1)	DR(1); ENC(1)
Leger, F.	'The City'	1919	Oil / 2.31 x 2.95m	C(3)	C(2)	C(1); ENC(1)
Lindis farne Gospels	English: VIIC. 'St. Matthew"	VII/C	Manuscript	DR(1)	DR(1)	DR(1)
Marisol, E.	'The Family'	1961	Mixed / 82" x 67"	C(1)	ENC(1)	ENC(1)
Masson, A.	'Battle of the Fishes'	1927	Pencil, Oil, Sand / 36 x 73cm	DR(1)	DR(1)	DR(2)
Michelangelo	'Pieta'	1498-99	Marble	C(1); ENC(1)	C(2)	ENC(1)
Miro, J.	'Self-Portrait'	1937-38	Pencil, Crayon, Oil / 1.46 x .97m	DR(1)	ENC(1)	DR(1); ENC(1)

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ARTISTS	TITLE	YEAR	MEDIUM/SIZE	GRADE/DIVISION, LOCATION(S), AND NUMBER OF TIMES CITED IN CONCEPTS		
				7	8	9
Monet, C.	Center-detail 'Water Lilies'	1920	Oil	C(1)	C(1)	ENC(2)
Moore, H.	'Tube Shelter Perspective'	1941	Chalk, Watercolor	DR(1); C(1)	DR(5); C(2)	DR(2)
Nolde, E.	'The Last Supper'	1909	Oil / 34" x 42"	C(1)	C(1)	C(2)
Parthenon	West Frieze 'Two Horsemen at Canter'	447-32 BC	Relief Marble	C(1); ENC(1)	C(1); ENC(1)	C(1)
Picasso, P.	'Head of a Bull'	1943	Assemblage	C(1)	C(2)	C(1)
Rembrandt	'Cottage Among the Trees'	C.1652	Ink Wash	DR(1); C(1)	DR(1)	ENC(2)
Rodin, A.	'The Thinker'	C.1876	Bronze /1.98 x 1.3 x 1.34m	C(1)	C(2)	ENC(2)
Seurat, G.	'A Sunday Afternoon at the Grande Jatte'	1885	Oil / 2.06 x 3.05m	C(1)	C(2)	DR(1)
Smith, D.	'Hudson River Landscape'	1951	Steel / 1.9m	C(1)	C(1)	ENC(2)
Stella, F.	'Jasper's Dilemma'	1962-63	Alkyd / 6'5" x 12'10"	C(2)	C(1)	C(1)
Tanguy, Y.	'Furniture of Time'	1939	Oil / 46" x 35"	C(1)	C(1)	C(1)
Toulouse-Lautrec, H.	'Yvette Guilbert'	1893	Pastel	DR(1); ENC(1)	ENC(1)	DR(2); ENC(1)
van Gogh, V.	'View of Arles'	1888	Pen	DR(1)	DR(2)	DR(2)
van Gogh, V.	'Night Cafe'	1888	Oil / 29' x 36'	C(2)	C(3)	C(1)
Vermer, J.	'Young Woman with a Water Jug'	C.1665	Oil / 18" x 16"	C(1)	C(1)	DR(1); C(1); ENC(2)
Watteau, A.	'Head Studies'			DR(1)	ENC(1)	DR(1)
PLUS:						
A Complement of Canadian Slides.						

PACKET SEVEN

NOTE: DR : DRAWINGS; C : COMPOSITIONS; ENC : ENCOUNTERS

ARTISTS	TITLE	YEAR	MEDIUM/SIZE	GRADE/DIVISION, LOCATION(S), AND NUMEZR OF TIMES CITED IN CONCEPTS		
				7	8	9
Daumier, H.	'Third Class Carriage'	C.1862	Oil / 26" x 36"	DR(1)		DR(2); ENC(1)
Delacroix, E.	'Armored Figure on Horseback'		Drawing	DR(1)		ENC(1)
Dubuffet, J.	'Business Prospers'	1961	Oil / 65" x 87"	C(1)		C(1)
Durer, A.	'Knight on Horseback'		Pen/Ink	DR(1)		ENC(1)
Easter Island	'Rapa Nui' Statues	XVII/C	Lava	C(1); ENC(1)		
Egypt	Relief 'Herdsmen and Cattle'	2565-2420 BC	Painted, Relief	C(1)		ENC(1)
Ernst, M.	'Horde'	1927	Frottage	DR(1); C(1)		DR(1)
Lascaux	'Main Chamber - General View'	15,000-9000BC	Cave Paintings	ENC(1)		ENC(2)
Marin, J.	'Lower Manhattan'	1920	Watercolor	DR(1)	DR(2); C(1)	
Matisse, H.	'The Plumed Hat'	1919	Ink	DR(1); ENC(1)		DR(1)
Michelangelo	'Draped Figure'		Drawing	DR(1)	ENC(1)	
Munch, E.	'The Scream'		Drawing	DR(1)		DR(2)
Nicholson, B.	'Relief'	1939	Relief	C(1)		
Ravenna, S. Vitale	'Emperor Justinian and His Retinue'	547 AD	Mosaic-apse	C(1)		C(1); ENC(1)
Rembrandt	'Self-Portrait'	1627	Pen/Wash	C(1); ENC(1)		ENC(1)
Rembrandt	'Self-Portrait'	1633	Chalk	C(1); ENC(1)		ENC(1)
Rembrandt	'Self-Portrait'	1657	Pen	C(1); ENC(1)		ENC(1)
Seurat, G.	'The Stone Breakers'	C.1881	Conte	DR(2)		DR(1); ENC(1)
van Gogh, V.	'The Zouave'	1888	Ink	DR(1)		

PACKET EIGHT

NOTE: DR : DRAWINGS; C : COMPOSITIONS; ENC : ENCOUNTERS

ARTISTS	TITLE	YEAR	MEDIUM/SIZE	GRADE/DIVISION, LOCATION(S), AND NUMBER OF TIMES CITED IN CONCEPTS		
				7	8	9
Albers, A.	'Wall Hanging'	1948	Tapestry		ENC(1)	C(1)
Chartres	'Interior - Upper Nave from West'	1194-1260	Cathedral		ENC(2)	
da Vinci	'Proportions of the Human Figure'	C.1492	Pen		DR(1); ENC(1)	
da Vinci	'Study for the Adoration of the Magi'	C.1480	Pen		DR(2)	DR(1)
Gandi, A.	Barcelona 'Casa Mila-Facade'	1905-1907	Architecture		ENC(1)	C(1)
Ghiberti	East Doors 'Gates of Paradise'	1428-1452	Bronze	C(1); ENC(1)	C(1)	
Giacometti, A.	'Walking Quickly under the Rain'	1949	Bronze, 32" long		C(1); ENC(1)	ENC(1)
Gottlieb, A.	'Stained Glass Wall'	1954	Stained Glass		ENC(1)	C(1)
Homer, W.	'Life Boat'	C.1881	Drawing		DR(1)	DR(1)
Johns, J.	'Numbers in Color'	1958-59	Oil		C(2)	
Koepping	'Glasses, Flower Shaped'	1895-96	Artifacts		ENC(1)	
Mexico	'University of Mexico Library-Facade: O'Gorman Saavedra, Velasco-Architects'	1952-53	Architecture		ENC(1)	
Moore, H.	'Reclining Figure Paris UNESCO H.Q.'		Sculpture		ENC(1)	
Mycenean	'Spouted Jar with Octopi'	1200-1125 BC	Artifacts		ENC(1)	
Nevelson, L.	'Sky Cathedral'	1958		C(1)	C(1); ENC(1)	
Notre Dame, Paris	'South Side'	1163-1250	Cathedral		ENC(1)	
Oldenburg, C.	'Soft Typewriter (Ghost)'	1963	Vinyl, Kapok		C(1); ENC(1)	C(1)
Parthenon	'West Facade, North Flank'	448-432 BC	Architecture		ENC(2)	
Rembrandt	'Christ Carrying the Cross'	1635	Pen/Brush		DR(2)	
Riley, B.	'Current'	1964	Synthetic - resin paint / 58' x 59"		C(2)	
Soleri, P.	'Arcosanti II, 20th Century City Structure Plan'		Architectural Plans		ENC(2)	
Guillard; Lalique; Maison Vevre.	'Three Combs'	C.1900	Artifacts		ENC(1)	
Tiffany and Co.	'Mantle Set with Egyptian Motifs'	C.1885	Artifacts		C(1); ENC(2)	

PACKET NINE

NOTE: DR : DRAWINGS; C : COMPOSITIONS; ENC : ENCOUNTERS

ARTISTS	TITLE	YEAR	MEDIUM/SIZE	GRADE/DIVISION, LOCATION(S), AND NUMBER OF TIMES CITED IN CONCEPTS		
				7	8	9
Albers, J.	'Homage to the Square "Broad Call"'	1967	Painting			C(1)
Boccioni, V.	'Unique Forms of Continuity in Space'	1913	Bronze / 101cm			ENC(1)
Bruegel, P.	'Return of the Flock'	C.1560	Oil / 1.17 x 1.5m			C(1); ENC(2)
Cezanne, P.	'Mt. St. Victoire'	1904	Oil			C(1); ENC(2)
Constable, J.	'Haywain'	1821	Oil / 51" x 74"			C(1); ENC(2)
Coptic	'Weaving/Textiles II/IIIC - Border Design: Heads, horses, birds'	II/III/C	Textile			DR(1); C(1)
Corot, J.	'Port of La Rochelle'	1851	Oil / 20" x 28"			C(1); ENC(2)
David, J.L.	'Oath of the Horatii'	1784	Oil / 14' x 11'			C(2); ENC(1)
da Vinci	'Mona Lisa'	1503-05	Oil / 30" x 21"			C(1); ENC(2)
Duchamp, M.	'Nude Descending Staircase'	1912	Oil / 58" x 35"		C(1)	C(1); ENC(1)
Gainsborough, T.	'Blue Boy'	1770	Painting	C(2)		C(1); ENC(1)
Greek	'Amphora: Big Trainer - Trainer and Runner in Armor'	C.490 BC	Artifact			C(1); ENC(1)
Llao Dynasty	'Four Seasons: Mural from Ching Ling'	907-1125 AD	Painting			C(1); ENC(2)
Mantegna, A.	'The Dead Christ'	C.1501	Oil / 26" x 31"		DR(1); C(1)	DR(2); C(1)
Michelangelo	'Sistine Chapel - The Flood'	1508-12	Fresco			C(1); ENC(2)
Millet, J.	'The Gleaners'	1857	Oil / 33" x 44"			C(1); ENC(1)
O'Keefe, G.	'Red Hills and Bones'		Oil			C(2); ENC(2)
Picasso, P.	'Portrait of Ambrose Vollard'	1915	Pencil			DR(2); C(1)
Pollock, J.	'Autumn Rhythm'	1950	Oil / 2.67 x 5.26m			C(2); ENC(2)
Pompeii	'Sacred Landscape'	1C BC/1C AD	Wall Painting			ENC(2)
Ravenna, S. Vitale	'Vault Decoration - peacocks, etc.'	52-47 AD				DR(1); C(1); ENC(1)
Renoir, P.A.	'Moulin de a Galette'	1876	Oil / 51" x 68"			C(2); ENC(1)
Rigaud, H.	'Louis XIV'	1701	Oil / 9'2" x 6'3"			ENC(2)

ARTISTS	TITLE	YEAR	MEDIUM/SIZE	GRADE/DIVISION, LOCATION(S), AND NUMBER OF TIMES CITED IN CONCEPTS		
				7	8	9
Turner, J.M.W.	'Snow Storm: Steamboat off a Harbor's Mouth'	1842	Oil / .92 x 1.22m			C(1); EN[illegible].)
van Gogh, V.	'Cypresses'	1889	Oil			C(1); ENC(2)
Warhol, A.	'Gold Marilyn Monroe'	1962	Painting			ENC(2)
Wyeth, A.	'Christina's World'	1948	Tempera / 32" x 48"			DR(1); C(2); ENC(1)

RESOURCES (cont...)

B **Additional Print Resources** NAMES, ADDRESSES AND MATERIALS DESCRIPTION.

. Alberta Education Regional Offices

Grande Prairie
5th Floor, Nordic Court
10014 - 99 Street
Grande Prairie, Alberta
T8V 3N4

Edmonton
3rd Floor, Edwards Building
10053 - 111 Street
Edmonton, Alberta
T5K 2H8

Red Deer
4th Floor
Royal Trust Building
4814 Ross Street
Red Deer, Alberta
T4N 1X4

Calgary
Room 1200
Rocky Mountain Plaza
615 MacLeod Trail, S.E.
Calgary, Alberta
T2G 4T8

Lethbridge
Provincial Building
200 - 5 Avenue, South
Bag Service 3014
Lethbridge, Alberta
T1J 4C7

- Consultants.
- Library availability.
- Booklet listing available.

. Alberta Culture
Information Centre
Visual Arts
3rd Floor, 10158 - 103 Street
Edmonton, Alberta
T5J 0X6
(403) 427-2031

All publications are available free of charge. Phone or write for Art Information Catalogue.

- Technical manuals, bibliographies and materials and supplies list for eleven media.
- Information on Arts Administration, Art Marketing, Art Promotion, Exhibition and Display.
- Descriptions of various components of Alberta Culture, as well as the programs offered.
- Visual Arts Newsletter is published bimonthly.

. A.T.A. Fine Arts Council
Barnett House
11010 - 142 Street
Edmonton, Alberta
T5N 2R1

- Provincial organization.
- Membership and subscription information.
- Visual and print bibliographies.
- Publication: FINE
- In-services.

cont....

RESOURCES (cont...)

- Canadian Society for Education Through Art (C.S.E.A.)
  National Office
  3186 Newbound Court
  Malton, Ontario
  L4T 1R9

  - National organization.
  - Membership and subscription information listings.
  - Pamphlets and article reprints.
  - Publications: Annual Journal; Canadian Review of Art Education Research

- Catalogues of Canadian Artists include information about: biographies, works of art, exhibitions, sales, reproduction availability. Information is available for historic and contemporary artists, and encompasses artists from all geographic regions in Canada.

  Some catalogues listed in library holdings:

  - A Directory of Eskimo Artists in Sculpture and Prints.
  - Alberta Art Foundation - Inventory of Art-Works Acquired to February, 1980.
  - Catalogue of the Library of the National Gallery of Canada.
  - Art Gallery of Ontario - the Canadian Collection.
  - Canadian Art at Auction.

- Center for Occupational Hazards
  5 Beekman Street
  New York, N.Y. 10038
  (212-227-6220)

  - Organization to gather and dispense information about hazardous materials.
  - Subscription information.
  - Extensive publication list available.
  - Newsletter: Art Hazards News
  - Workshop, research updates.

- National Art Education Association (N.A.E.A.)
  1916 Association Drive
  Reston, Virginia 22091

  - International organization.
  - Membership and subscription information.
  - Pamphlets and research listings.
  - Publications: Art Education, Studies in Art Education, Visual Arts Newsletter.

- Provincial Museum of Alberta
  12845 - 102 Avenue
  Edmonton, Alberta
  T5N 0M6

  Attn.: Museum Bookshop.
  (403-427-1765)

  - Profiles is a binder style book containing histories and source list readings for 50 ethnic groups in Alberta; very reasonable cost.

cont....

RESOURCES (cont...)

- See Appendix K on "Hazardous Art Materials and Occupational Safety" for further listing of books, pamphlets, and posters that are available.

- Material is available also through media centers or Teacher Resource Centers within each School Board.

- Over 200 art periodicals are listed in various library indexes.

C **Additional Visual Resources** NAMES, ADDRESSES AND MATERIALS DESCRIPTION.

C.1 Slide Resources.

- Alberta Culture
  Information Centre
  Visual Arts
  3rd Floor, 10158 - 103 Street
  Edmonton, Alberta
  T5J 0X6
  (403-427-2031)

  - An inventory of slides is available from the Child Art Education program.

- American Slide Library
  Color Slide Co. Inc.
  P.O. Box 5810
  Grand Central Station
  New York, N.Y. 10017

  - Catalogues available.
  - Individual slides and sets.

- Art Gallery of Ontario
  317 Dundas Street West
  Toronto, Ontario
  M5T 1G4

  - Individual slides of Canadian artists.

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RESOURCES (con't...)

. Glenbow Museum
130 - 9th Avenue S.E.
Calgary, Alberta
T2G 0P3

- 'Photographic Price List: Curatorial' is available.
- Individual slides.

. National Gallery of Canada Slide Sales
Publications Dept.
Ottawa, Ontario
K1A 0M8

- Catalogue available of Canadian Artists' works; individual slides and sets.

. National Gallery of Art
Estension Service
Washington, D.C. 20565

- Catalogue of slide programs is available.

. Rosenthal Slide Library
Rosenthal Art Slides
5456 South Ridgewood Court
Chicago, Illinois 60615

- Catalogues available.
- Individual slides and sets.
- Includes all areas of the visual arts.

. Sandak, Inc.
180 Harvard Avenue
Stamford, Conn. 06902

- Catalogues of major museum collections, modern and historic.
- Individual slides and sets.

C.2 Art Works and Art Reproductions.

. Alberta Education Regional Offices

(see addresses listed in Additional Print Resources, Section B.)

- Alberta artist's works available for classroom display.

. Alberta Art Foundation
Information Centre
Visual Arts
3rd Floor, 10158 - 103 Street
Edmonton, Alberta
T5J 0X6
(403-427-2031)

- Brochures and catalogues of exhibitions held.

cont....

RESOURCES (cont...)

- Alberta Culture
  Information Centre
  Visual Arts
  3rd Floor, 10158 - 103 Street
  Edmonton, Alberta
  T5J 0X6
  (403-427-2031)

  - Catalogues of exhibitions held.
  - Posters of past exhibitions, as well as art education promotion.

- Glenbow Museum
  130 - 9th Avenue S.E.
  Calgary, Alberta
  T2G 0P3

  - 'Photographic Price List: Curatorial' is available.
  - Black and white, and color photographs and enlargements.

- Metropolitan Museum of Art
  82 Street - 5th Avenue
  New York, New York 10028

  - Slides, sound/slide sets, prints, posters, publications, recordings, postcards, 3-D reproductions.
  - Catalogues available.

- Museum of Modern Art
  11 West 53 Street
  New York, New York 10019

  - Reproductions available.

- N.A.E.A.
  1916 Association Drive
  Reston, Virginia 22091

  - Lists of visual material available.

- National Gallery of Art
  Washington, D.C. 20565

  - Catalogues of reproductions available.

- Postcards are available from many art galleries and museums. Packets of postcards can be used as a teaching aid - one concept rendered by several artists or, the development of an artist's style - for individual student or small group study.

- Reinhold Visual Series
  Van Nostrand Reinhold Ltd.
  1410 Birchmount Road
  Scarborough, Ontario
  M1P 2E7

  - Reproductions; black and white and color.

cont....

RESOURCES (cont...)

C3. Audio-visual materials (loan rental, purchase).

- ACCESS
  Media Resource Center
  10230 - 114 Avenue
  Edmonton, Alberta
  T5M 3S2
  (403-451-3160)

  - Catalogue available in most schools.
  - Videotape material.

- Alberta Agriculture
  Film Library
  7000 - 113 St.
  Edmonton, Alberta
  T6H 5T6

  - Catalogue available.
  - Loan.
  - Films on quilting, fabric work batik, block printing.

- Alberta Culture
  (see address listed previously)

  - An inventory of films, slides and kits available from the Child Art Education program.

- Alberta Cultural Heritage Foundation
  202, 9924 - 106 Street
  Edmonton, Alberta
  T5K 1C4

  - Alberta People Kit - multimedia, cultural heritage awareness education kit for upper elementary classes.
  - Purchase.

- Canadian Film Institute
  Film Library
  #204 - 211 Watline Avenue
  Mississauga, Ontario
  L4Z 1P3

  - Catalogue, charge of $15.00.
  - Rental, rates approx. $2.00 a minute, decreasing with length of film.

- Films from Consulates and Embassies may be useful.

- Films on Art (book)
  Watson - Guptill Publications

  - Composite listing of art films and sources.

- Institutional Media Centers - Universities, Technical Schools, Art Colleges.

cont....

RESOURCES (cont...)

- McIntyre Educational Media Ltd.
  86 St. Regis Crescent North
  Downsview, Ontario

  - Catalogues available.
  - Purchase, film strips and cassettes.
  - Individual filmstrips, and series.

- Media Centers or Teacher Resource Centers in School Boards may have film listings.

- National Film Board
  Mn Flr. 222-1 St., S.E.
  Calgary, Alberta
  T2P 3C3

  Centennial Bldg.,
  10031 - 103 Ave.
  Edmonton, Alberta
  T5J 0G9

  - Catalogue available.
  - 16mm films.
  - loan

- Sandak, Inc.
  180, Harvard Avenue
  Stamford, Connecticut 06902

  - Catalogues available.
  - Filmstrips and cassettes, available individually or in series.
  - Purchase.

- The Center for the Humanities, Inc.
  2 Holland Avenue
  White Plains,
  N.Y. 10603

  - Filmstrip and slide programs.
  - Purchase.

- Time-Life Video
  Time-Life Building
  Chicago, Illinois 60111

  - Catalogue available.
  - Rental.

RESOURCES (cont...)

D. **Personnel, Centers, Organizations and Institutions** NAMES, ADDRESSES AND BRIEF DESCRIPTION.

- Alberta Association of Multicultural Education
  c/o Treasurer, AAME
  Edmonton Public School Board
  10010 - 107A Avenue
  Edmonton, Alberta
  T5H 0Z8

  - Organization to support multicultural and intercultural education in schools and communities.

- Alberta College of Art
  1301 - 16 Avenue N.W.
  Calgary, Alberta
  (403-284-8651)

  - Gallery.
  - Open house tours.

- Alberta Culture

  (see address previously listed)

  Cultural Heritage: Programs and Services

  - Funding program, Multicultural Training program.
  - Information Programs: a directory of ethno-cultural groups in Alberta, Heritage, a magazine, Update, a newsletter, Profiles, a book.

  - Alberta Culture Library is on the 11th floor, CN Tower, in Edmonton.

- Alberta Culture

  (see address previously listed)

  - Workshops, programs, services are listed in the Art Information Catalogue, 1983-84.
  - Beaver House Gallery shows works of amateur, student and professional artists.

- Art Consultants
  Alberta Education Regional Offices

  (see addresses in Additional Print Resources section)

- ATA Fine Arts Council
  Barnett House
  11010 - 142 Street
  Edmonton, Alberta
  T5N 2R1

  - Membership and newsletter.
  - Regional conferences.

cont....

RESOURCES (cont...)

- Banff Center
  School of Fine Arts
  Visual Arts Department
  P.O. Box 1020
  Banff, Alberta
  T0L 0C0

  - Gallery; winter/summer courses.
  - Coordinates 'Artists in the Schools' program.

- Canadian Society for Education Through Art
  National Office
  3186 Newbound Court
  Malton, Ontario
  L4T 1R9

  - Membership and newsletters.
  - National conferences.

- Cultural Centers
  (provided by Glenbow)

- Continuing Education Departments of Community Colleges and Universities offer a variety of art courses.

- Edmonton Art Gallery
  Art Education Department
  2 Sir Winston Churchill Square
  Edmonton, Alberta
  T5J 2C1
  (403-422-6223)

  - Exhibitions, art classes, lectures, gallery magazine, research library, slide library.

- Glenbow Museum
  Education Department
  130 - 9 Ave., S.E.
  Calgary, Alberta
  T2G 0P3

  - Historical and contemporary exhibitions.
  - Lectures, films, education and extension programs, Glenbow magazine, library, archives, artists' biographies.

- Leighton Center for Arts and Crafts
  Box 38
  Midnapore, Alberta

  - Courses in a variety of media.

cont....

RESOURCES (cont...)

- Multicultural Heritage Centre
  5411 - 51 Street
  Box 908
  Stony Plain, Alberta
  T0E 2G0
  (403-963-2777)

  - Gallery, heritage program, art courses, craft courses, a museum, and artists' biographies.

- Muttart Gallery
  2nd Floor, 1221 - 2 St., S.W.
  Calgary, Alberta
  T2R 0W5

  - Galleries.
  - Community exhibitions.

- National Art Education Association
  1916 Association Dr.
  Reston, Virginia 22091

  - Membership and newsletters.
  - Regional and international conferences.

- Prairie Art Gallery
  9809 - 102 Street
  Grande Prairie, Alberta
  T8V 2V1

  - Galleries.
  - Workshops and classes.

- Provincial Museum of Alberta
  12845 - 102 Avenue
  Edmonton, Avenue
  T5N 0M6
  (403-427-1730)

  - Art exhibitions emphasize documentary or historical representational works.
  - Art education classes.

- Red Deer and District Museum
  Box 762
  Red Deer, Alberta
  T4N 5H2
  (403-343-6844)

  - Historical works in all media, lectures, films and other events in connection with its exhibitions.

- Southern Alberta Art Gallery
  601 - 3rd Avenue, S.
  Lethbridge, Alberta
  T1J 0H4

  - Galleries
  - Classes and workshop.

Index to Hazardous Art Materials and Occupational Safety

A. **Resources**

A.1 Listing of Contacts for Resources.

B. **Occupational Safety**

B.1 Ventilation

B.2 Noise

B.3 Illumination

B.4 Storage

B.5 Kilns and Photographic Darkrooms

B.6 Asbestos

B.7 Behavioral Precautions

C. **Art Materials**

C.1 Dangerous Art Materials

C.2 Hazardous Art Materials

C.3 Glossary

Hazardous Art Materials and Occupational Safety

A. RESOURCES

A.1 Listing of Contacts for Resources

- Ad Hoc Committee on Health Hazard in Arts and Crafts Materials.

  Health Protection Branch of Health and Welfare Canada, Ottawa, Ontario.

  Contact: John Harrison,
  Secretary at 613-990-8861.

  - Committee formed in September, 1982; main intent is to increase public awareness of hazards.
  - Large wall charts are available on hazards in: Pottery and Ceramics, Dyes and Fibers, Jewellery, Photography and Painting and Printmaking. Available free of charge.

  Write to:
  Health and Welfare Canada
  5th floor, Brooke Claxton Bldg.
  Ottawa, Canada
  K1A 0K9

- Alberta Workers' Health, Safety and Compensation. Design Criteria for the Control of Health Hazards in Schools.

  - Booklet contains bibliography.
  - Concerns ventilation, noise, illumination, sprayed-on asbestos.
  - "Woodworking Exhaust Ventilation Requirements for Industrial Art Areas in Alberta High Schools" available.
  - "The Control of Fibre Released from Sprayed-On Asbestos Containing Surfaces" available.

  Copies of booklets and additional information available at the following addresses:

  Occupational Health Branch
  9321 - 48 St.
  Edmonton, Alberta
  T6B 2R4
  (403)427-4792

  2nd Floor
  1021 - 10th Ave., S.W.
  Calgary, Alberta
  T2R 2B7
  (403)261-2188

- Alberta Lung Association
  10618 - 124 St.
  Edmonton, Alberta
  T5N 3X4
  (403)482-6527

  - Will provide information on acquiring Health Hazards in Arts and Crafts, published by the Ontario Lung Association), 16 pp.
  - Also will provide information on acquiring Health Hazards in the Arts, a bulletin published by the American Lung Association.
  - May be a fee, depending on number of copies requested.

cont....

- The Arts and Crafts Material Institute, Inc.
(formerly Crayon, Watercolor and Craft Institute).
715 Boylston Street
Boston, M.A. 02116

  - Will send list of approved, safe (not toxic or injurious) art materials.
  - Look for seals of approval (AP) or (CP) on materials used in classroom.

- Art Team Program Development. Safety Bulletin Art Education.

  Calgary Board of Education, Calgary, Alberta, 1979.

- B.C.A.T.A. Art Hazards in the Classroom: A Learning Conditions Draft. Vol. 21 No. 2, March 1961.

  - Contents compiled from Art Hazards Newsletter to 1981; 21 pages.
  - Includes resources list.
  - Draft has since been approved by B.C. Federation.
  - Copies can be acquired by sending $2.00 (cheque or money order payable to B.C. Art Teacher's Association) to:
    Bob King
    c/0 Port Moody Senior Secondary
    300 Albert Street
    Port Moody, B.C.
    V3H 2M5

- Bingham, Eula, ed. Women and the Workplace.

  - Health problems, including suggestions for improvements in the workplace for both men and women.

  Available from:
  Society for Occuptional and Environmental Health,
  1714 Massachusetts Avenue, N.W.
  Washington, D.C. 20036

- Carnow, Bernard. Health Hazards in the Arts and Crafts.

  Available from:
  Hazards in the Arts,
  Box 110, Route 1
  Steuben, Wisconsin 54657

- Center for Occupational Hazards, Inc.
5 Beekman St.
New York, New York 10038
(212)227-6220

  - Art Hazards Newsletter is published monthly. Contains research findings, publications lists, Calendar of Events, subscription fee.
  - C.O.H. will also answer any written or telephoned inquiries regarding art materials or occupational conditions.
  - Send a self-addressed stamped envelope to C.O.H. to receive publications list.

cont....

HAZARDOUS ART MATERIALS AND OCCUPATIONAL SAFETY
(cont...)

- C.O.H. Art Hazards Courses.

  - Interest in sponsoring courses on health hazards can be directed to information center of C.O.H.

  Center for Occupational Hazards, Inc.
  5 Beekman St.
  New York, New York 10038
  (212)227-6220

- Government of Alberta. Health and Safety in Printmaking.

  - Highly recommended manual, approximately 100 pages; nominal charge.

  Queen's Printer Building
  11510 - Kingsway Avenue
  Edmonton, Alberta
  T5G 2Y5

- Harrison, John
  Toxicological Advisor
  Environmental and Occupational
  Toxicology Division
  Health and Welfare Canada
  Ottawa, Ontario
  K1A 0L2
  (613)990-8861

  - Mr. Harrison will make available reprints of his article 'Art Smart'; (Living Safety, Winter 1983/84) which contains a list of further contact associations.
  - Can provide 'Guidelines on toxic and hazardous chemicals, used in educational institutions' for $1.50.
  - Very good information on classification, criteria, storage compatibility, and disposal, as well as bibliography.

- McCann, Michael. Artist Beware: The Hazards and Precautions in Working with Art and Craft Materials. New York: Watson-Guptill, 1979.

  - Also available through the publications list of the:
    Center for Occupational Hazards, Inc.
    5 Beekman St.
    New York, New York 100[illegible]

- Ontario Crafts Council.
  "A Personal Risk Assessment for Craftsmen and Artists."
  "Crafts and Hazards to Health."
  An A/V kit also available.

  Contact:
  Ontario Ontario Crafts Council
  346 Dunlar Street West
  Toronto, Ontario
  M5T 1G5
  (416)977-3557

cont....

- Peltz, P. and Rossol, M.
"Children's Art Materials Can Be Toxic."

  - 7 page data sheet; $1.40.
  - Also available through the publications lists of the C.O.H.

Center for Occupational Hazards
5 Beekman St.
New York, New York 10038

- Siedlicki, Jerome. The Silent Enemy: Potential Health Hazards in the Arts and Their Control.

Available from:
Artists Equity Association
2813 Alber Marle St., N.W.
Washington, D.C. 20008

B. Occupational Safety

Information in this section was derived primarily from Design Criteria for the Control of Health Hazards in Schools published by the Occupational Hygiene Branch of Alberta. Teachers are encouraged to gather information from primary sources such as the one cited, as the following information has been summarized and is not definitive.

B.1 Ventilation

Two types of ventilation - general and local - assist in the control of contaminants such as dust, odors, gases, vapors, mists, and hot air. Ventilation also helps to control heat build-up and humidity. An open window is not considered sufficient in providing the air circulation essential for the prevention of health hazards or risks. In some contaminant cases, opening windows will only further human contact with the hazardous material.

General ventilation refers to the number of times an hour the air for the whole facility is changed. Three to six air changes per hour are recommended for fine arts rooms. Also recommended is the maintenance of a slight negative air pressure in the room. Negative air pressure would assist in containing contaminants in the fine arts area, rather than spreading these throughout the school. However, general ventilation is not capable of reducing contaminant hazards associated with particular art materials that may be used.

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Local ventilation refers to systems designed specifically for contaminant situations. For example, cross draft systems, hoods closed on three sides and backdrafted vents are systems that effectively control contaminants in silk-screening, making plastics, or etching, respectively. Local ventilation must be selected and installed by ventilation experts. Teachers are encouraged to seek further information when ventilation problems are mentioned in the section on 'Hazardous Art Materials'.

The benefits of local ventilation are described in many occupational health manuals. Briefly, the students suffer less exposure to a contaminant, if the proper system is used, than they will suffer with only general ventilation. Also, aside from installation costs, local ventilation is cheaper and more efficient to use than general ventilation as it is specific to the problem, and can be shut off when not required.

B.2 Noise

Excessive noise in any room in the school may cause problems. Make sure students are wearing industrial ear protection when woodworking or metal working equipment for extended periods of time.

B.3 Illumination

Full spectrum fluorescent tubes combined with natural lighting is considered an optimum lighting situation. Be advised that fluorescent tubes lose 20% to 40% of their efficiency after 18 to 24 months of use. Changing tubes reduces the amount of fuzzy noise that can be heard when fluorescent lighting is used.

B.4 Storage

Limit storage of volatile materials in the art room to a few days. Store the remainder of the volatile or hazardous materials in a central storage area, first ensuring that the exhaust system will remove air to the outside of the building. Specific volume exhaust is recommended at .005 m^3/s per m^2 floor area.

B.5 Kilns and Photographic Darkrooms

Kilns must operate in a room separate from the art room and must be vented to the outside by a canopy hood providing a capture velocity of .25 m/s (50 fpm).

Photographic darkrooms should also be vented to the outside of the building. Black and white developing requires ten air changes per hour. A capture velocity of .75 m^2/s per square meter of surface area of trays is necessary in color developing.

Teachers must inform themselves of the proper use and maintenance of their kilns, as well as the appropriate and conscientious behavior necessary when in a dark room, by consulting primary resources.

B.6 Asbestos

Asbestos may have been used in fireproofing, insulation, acoustic and decorative capacities in the school plant. The surface can be treated in various ways in order to remove it from human contact. If the surface has been damaged, the contaminant fibers are being released, and a procedure to remove the asbestos from human contact MUST be completed.

B.7 Behavioral Precautions
(from B. Carnow's Health Hazards in the Arts and J. Harrison's Art Smart - see Resources)

Preventative and precautionary behaviors will enable students and teachers to use art materials in safe ways. The effects of using hazardous materials can be minimized.

- Find out the contents of the materials you use. You may have to write to the manufacturer to get this information. If toxic, use and store appropriately. Look for substitutes. Consider other forms (e.g., liquid instead of aerosol).

- Keep the work area clean. Use and teach hygienic practices. Store all liquids in sealed containers. Cover powders. Keep bulk volatile substances in separate storage areas. Wet mopping is recommended over dry sweeping.

- Personal hygiene is essential. Wash hands after using solvents, metals or other toxic substances. Keep fingernails short and clean when using lead, cadmium, mercury, cobalt or similar materials. Do not eat or smoke in the work area to avoid possible ingestion or inhalation of toxic substances. Protective clothing should be worn at appropriate times: safety goggles for grinding, sanding, welding; gloves and long sleeves when using solvents; masks when working with powders, dusts and fumes.

- Work in properly ventilated areas. Keep room cool and humid, not hot, dry or dark.

- When health problems are suspected, make sure that the physician knows the circumstances and the materials that you or your students have been exposed to. The Center for Occupational Hazards, Inc. can provide names of physicians particularly cognizant of the health hazards of art materials.

cont.

C. Art Materials

Materials used in the art room pose health risks ranging from undergoing slight irritation to developing a major illness or disease. Ingestion, inhalation, and absorption are the three methods by which toxic materials irritate the body. Precautionary and preventative measures practiced by the teacher will reduce the health risks posed by various art materials.

The following information and format was drawn primarily from the Manitoba Elementary Art Curriculum, 1983. The extensive list of materials and useful precaution/substitution column povided an excellent resource for this section. Materials were added that are often found in junior high art rooms. Again, teachers are advised to go to more extensive primary resources in order to fully examine hazardous potentials associated with various materials. Once information is acquired, environmental organization and technical behaviors can be incorporated, and health-oriented practices can be taught and practised.

C.1 Dangerous Art Materials

These materials are extremely dangerous and must not be used:

Aerosal fixative sprays
Arsenic oxide (glaze)
Asbestos
Benzene

Benzidine-type dyes in some colored papers
Cadmium silver solder
Carbon disulfide
Carbon tetrachloride
Chloroform
Cyanide solutions (potassium ferro cyanide)
Dioxane
Methylene dichloride
Lead chromate
Methyl butyl ketone
Methyl hydrate
Perchlorethylene
Phenol
Talc clays
Tetra chlorethylene
Tri chlorethylene
Uranium oxide (glaze)
Vermiculite
Zinc chromate

cont....

C.2 Hazardous Art Materials

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Aerosol Sprays	- organic solvents used in the sprays - very fine particles of resins, paints, or lacquer propelled into the air - greatest danger by inhalation of mists - highly explosive	- paints containing highly toxic pigments SHOULD NOT BE USED - use only in a ventilated area or substitute other techniques for the application of coatings - use water soluble materials if possible - never use mouth atomizers
Asbestos (used in room as insulation, acoustical, decorative, fireproofing)	- asbestosis, lung cancer, and mesothelioma from damaged surfaces releasing fibers	- GET RID OF by stripping, enclosure, and encapsulation (see O.H. Branch)
Bark	- dermatitis from some species	- gently wash burlap before using it if this is a problem
Benzene	- may destroy bone marrow causing a plastic anemia and leukemia	- DO NOT USE; use toluene or xylene, with precautions
Burlap	- dust - skin allergies - irritation if treated with formaldehyde	- gently wash burlap before using it if this is a problem
Candle Making	- dyes, mould release possibly toxic - fire hazard from heating wax - irritating fumes released from over-heating	- paraffin is safe - use only double boiler method for melting wax - use ventilation
Carbon Tetrachloride	- highly toxic; known to cause liver cancer	- DO NOT USE
Cedar	- skin	
Ceramic Tiles	- eye damage from glass splinters - hand cuts from sharp edges	- wear goggles to protect eyes - wear gloves to protect hands

C:2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Charcoal	- may contain carbon black (carcinogenic due to impurities)	- use only non-toxic types - use vine charcoal - use vinyl or rubber gloves when using sticks
Clay	- silicosis (potter's lung) from inhalation of dust from dry clay - cuts and abrasions from wet clay with grog - dermatitis from bacteria mould or fungus in wet clay with grog	- buy clay wet - always use clay wet - use clay without grog for young children - mix or sand within local exhaust hoods provided 1.5 m/s face velocity - get lung x-ray and have pulmonary function test every second year if you use clay frequently in the program; current literature indicates pulmonary function taken over many years is a better indicator of problems than is x-ray for silicosis
Clay - Low Fire	- fumes from firing - can be a talc body (usually contains asbestos)	- kiln vented to outside by canopy hood providing capture velocity of .25 m/s - use non-talc clays - insist on asbestos-free clay
Clay Talc Bodies (Low-Fire Clay)	- may contain as much as 20% asbestos	- don't use talc clays (usually found in low-fire clay)
Colored Acetate Inks	- acetate solvents (eye, nose, throat irritant) used to etch color onto the acetate	- use water-soluble inks with a small amount of detergent (one drop); roughen plastic with 0000 steel wool to help ink adhesion OR - use coated acetate sheets (cells) that will take ordinary colored inks and dyes
Colored Inks	- may contain benzedine-type dyes (can cause bladder cancer)	- use in areas .25 m/s capture velocity - use only those labelled non-toxic - use food coloring

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Construction Paper	- may contain toxic dyes as color - may be treated with fungicide (mercury compounds)	- use non-toxic materials - avoid wetting the paper - prevent students from chewing the paper or putting it in their mouths
Copper Metal	- slight toxicity (will cause allergies in some people) - metal fume fever from copper powder (sanding dust) possible	- use a fume hood
Copper Tooling Toner	- liver of sulphur (potassium sulfide) used in toner - moderate to high toxicity - dermatitis - alkali and hydrogen sulfide, products of decomposition	- wear goggles and gloves when handling - use a fume hood
Cotton Duck or Canvas	- dust - skin allergies if treated with fungicide (irritant)	- wash fabric before use if it causes a problem
Crayons	- toxicity of some brands	- use only non-toxic crayons - leave paper wrapper on to protect fingers from contact with the wax
Cyanotypes	- potassium ferrocyanide used in activity - highly toxic hydrogen cyanide gas released when decomposed after heating, addition of acid, sitting after heating, addition of acid, sitting after being mixed, exposure to ultraviolet light (fluorescent light and sunlight)	- this is a dangerous chemical that should never be used in the classroom - use portrait proof paper (no developing required) or blueprint paper exposed with sunlight

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Developer	- skin and eye irritation - toxic by inhalation	- use mechanical ventilation - use gloves and goggles; never put bare hands in developer solution - use tongs - use care in cleaning up
Etching Acids	- strong irritants, especially in concentrated form, of eyes, nose and throat - gases and mists are inhalation hazard	- mixing and etching should be done under local ventilation to prevent inhalation of acid mists; trays should be in a back-drafted hood, providing a minimum of capture velocity of 0.5 m/s
Electric Fry-Pan (for heating wax)	- irritating fumes released from pyrolization of wax spatters over pan	- cover exposed parts of pan with removable aluminum foil and replace frequently - use pan in good repair
Epoxy	- toxic by skin contact and inhalation	- wear gloves and goggles - use a fume hood
Feathers	- anthrax infection possible from windfowl feathers	- use domestic fowl feathers or processed (pre-colored) feathers from a craft store
Felt Pens	- toxic organic solvents in permanent types	- use non-toxic, water-soluble markers

Fibre Dyeing (Natural Dyes)	- moderate toxicity from roots such as logwood
	- salmonella contamination of cochineal
	- mordants; of particular concern are
	  - Oxalic acid: high toxicity
	  - Potassium dichromate (chrome): suspected carcinogen
	  - Tannin (tannic acid): suspected carcinogen
		- vegetable sources are usually safe
		- prevent ingestion and inhalation
		- use mask and gloves
		- use extreme caution in handling these chemicals
		- use gloves, goggles, and respirator or mask (3M-8710) when handling these powders

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Fibre Dyeing (Synthetic Dyes)	- irritation of eyes, respiratory system and skin from fine powders - bladder cancer from direct dyes - liver cancer in animals from other types (Rit and Tintex are mixtures of direct and other dyes)	- treat all synthetic dyes with great care, using goggles, gloves, and respirator or mask (3M-8710) - clear up any spills with large quantities of water; any dye that is not cleaned up will become powder when dry and will remain toxic - use fume hood when handling - use alternates (food dyes)
Finger Paint	- toxicity of some types	- use only non-toxic types - make your own (see recipes at end of this section)
Fixer (Sodium Thiosulfate)	- may contain toxic chemicals or irritants such as alum, boric acid, or formaldehyde (in addition to sodium thiosulfate) - toxic sulfur dioxide released upon decomposition	- ventilate fixing bath - use caution in handling and mixing fixer - fixer is not as toxic as developer or stop bath
Fur	- anthrax infection possible from working with unprocessed fur	- use processed (tanned) furs
Glass Staining	- highly toxic dyes and solvents - may contain toulene, xylene	- use fume hood and gloves if dyes are solvent based - use safer water-soluble acrylics
Glaze	- dry powders - toxic oxides (or highly toxic): - antimony oxide - asbestos*** - barium carbonate - berylium, beryllia */*** - bone ash (calcium phosphate) - borax, boric acid	*carcinogen or serious toxin ***very fine particles

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
	- cadmium* - chrome yellow** - chrome oxide* (lead chromate) - cobalt - copper carbonate,* malachite - cryolite, cornish stone* - feldspars: silica (silicosis)*** - fluorspar* - iron chromate* - lead compounds: raw, fritted - lithium carbonate: irritant (powerful mood-altering drug) - manganese carbonate - manganese dioxides: nerve toxin - naples yellow: lead - nepheline synenite - nickel carbonate,* oxide - potash - potassium dichromate* - pumice - soda ash - sodium silicate - talc - asbestos* - uranium oxide** - vandium oxide* - vermiculite* - zinc yellow** - zircon zircopax*	*carcinogen or serious toxin **no known safe level ***very fine particles
Glue	- toxicity of some glues	- avoid contact adhesives (solvent), rubber cement (solvent), epoxy (hardner, toxic), formaldehyde - resin (resorcinol) - use safe, non-toxic white glue or PVA (polyvinyl acetate emulsion)

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Grout	- caustic burns to eye lining - skin problems for some people - slow healing of open sores or cuts after exposure to grout	- avoid eye contact, use goggles - protect hands by using vinyl or rubber gloves
Gum Arabic (Gum Acacia)	- respiratory allergies when inhaled as in enamelling	- use a respirator or mask (3M-8710) - use a fume hood - use sugar or syrup solution as a binder
Gum Tragacanth	- respiratory allergies/asthma when inhaled as in enamelling	- use respirator or mask when mixing powders - use fume hood - use sugar or syrup as a binder
Hemp	- dust - skin allergy - toxic if treated with formaldehyde	- use gloves
Hessian Burlap	- dust - skin allergy - toxic if treated with formaldehyde	- gently wash burlap before use if a problem
India Ink	- may contain carbon black contaminated with aromatic hydrocarbos (carcinogen)	- use non-toxic types, such as fountain pen ink - if using India ink of unknown quality, do so with mechanical ventilation
Ink - Colored	- dyes (use entry under Fibre Dyeing) - solvents - pigments (see entry under Pigments)	- use non-toxic inks - avoid skin contact - clean up spills thoroughly, using rubber gloves, a sponge and large quantities of water - do not clean up with bleach as this can create a more severe problem; many chlorinated chemicals are carcinogenic - substitute colored food dyes

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Jewellery	- fine metal file dust - solder - acid	- keep work are clean by wet cleaning or vacuuming - use a fume hood for processes that create fumes; i.e., soldering
Jute	- skin or respiratory allergy enamelling	- it may be necessary to use a dust mask (3M-8710) or wear vinyl or rubber gloves when working with jute
Lead (Glaze, Soldering, Stained Glass)	- toxic at low levels, especially for young children - suspected mutagen and teratogen - inhalation can result in kidney and liver damage	- use only lead-free glazes - solder only in a fume hood - stained glass using lead came and copper foil is not a recommended activity for elementary children, supervision in junior high grades is essential
Leather	- toxic chrome salts used for tanning some leather - skin allergy - poisoning possible if chewed	- prevent students from chewing leather - do not use with young children
Leather Tooling (Leather Kits)	- toxicity of leather dyes (both dyes and carrier solvents)	- use only non-toxic dyes such as those that are ethyl-alcohol based - wear gloves - use mechanical ventilation (fume hood)
Lost Wax Casting (Jewellery)	- investment or moulding compounds may contain: - silica: silicosis - asbestos: asbestosis, lung cancer, intestinal tract cancers - and may produce fumes: highly irritating to lungs and eyes	- use only non-silica investment - beware of asbestos content - burnout should be ventilated

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Magazines	- preservatives in paper - lead chromate inks present in colors	- prevent students from chewing the paper
Mahogany	- skin irritation	
Metal Fumes	- toxic byproducts when heating lead, copper, solder; welding; firing bisque and glaze kiln	- use mechanical ventilation or fume hood - the odour of fumes in the air is a warning of danger
Methyl Hydrate	- highly flammable - highly toxic by skin contact (nerve, liver, kidney damage; blindness; death)	- use grain (ethyl) alcohol
Mineral Spirits	- eye, nose and throat irritant and central nervous system depressants	- proper ventilation and storage
Modelling Materials (Papier Mache)	- fine dust in commercial product - lead chromate and other inks on paper - preservatives	- use only non-toxic materials
Modelling Materials (Plasticine)	- china clay, oil base, dyes (color), preservatives, silicates, turpentine - ingredients toxic by ingestion - skin problems (some brands)	- use only non-toxic brands - it may be necessary to have some children use barrier cream on their hands, but check with parents first - have students put hands under plastic bread bags or wear vinyl gloves
Modelling Materials (Self Hardening)	- may contain asbestos	- use only asbestos-free clay - use only non-toxic clay
Newspaper	- skin allergies for some people from oil in ink - may be treated with fungicide (irritant) - lead chromate (carcinogen) in some colored inks	- use only black and white sections for papier mache.

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Paint (Tempera Disk or Block)	- may contain toxic pigments or dyes - may contain irritants such as binders (gum arabic and tragacanth) - may contain preservatives	- tempera disk or block is the safest form of tempera for classroom use - clean up spills promptly (e.g., water dish) with a wet sponge or wet mop - do not allow students to paint their skin - use products labelled non-toxic
Paint (Tempera - Liquid)	- may contain toxic pigments or dyes - may contain irritants such as binders (gum arabic and tragacanth) - may contain preservatives	- clean up spills promptly with a wet sponge or wet mop - do not allow students to paint their skin - use products labelled non-toxic
Paint (Tempera - Powder)	- may contain toxic pigments or dyes - inhalation of powder dust	- never let young children use powdered tempera; use not recommended in public schools unless pre-mixed by teacher - use other forms of tempera - do not allow students to paint their skin - use products labelled non-toxic
Paper	- fungicides, such as mercury compounds, often used to treat paper	- prevent students from chewing and eating paper
Paper (Construction, Tissue, Crepe)	- fungicides often used to treat paper - azo or benzidine in direct dyes for color (benzidine is known to cause bladder cancer)	- insist on non-toxic paper - moderately safe when dry, avoid wetting - crepe paper will contain flame proofing chemicals (borax compounds, TRISS)
Paste	- may contain formaldehyde or mercury fungicide	- use non-toxic paste
Pastels	- toxic dust of fine pigments in chalk pastels - same pigments as used in paints (see entry under Pigments)	- don't use with young children - use only oil pastels - have children be careful to keep hands clean - wash with soap and water

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Photography	- a number of health problems from photo chemicals	- see notes at beginning of this section
Pigments	- poisonous pigments: - Burnt Umber (manganese) - Cadmium Red, Yellow, Vermillion, Orange) All are highly toxic human carcinogens. - Carbon Black (lamp black): skin cancer largely due to impurities from repeated contact - Chrome Green: human carcinogen, skin irritations, allergies - Chrome Yellow: human carcinogen, skin irritations, allergies - Cobalt Blue: skin allergies, asthma from inhalation - Cobalt Violet, cobalt arsenate: skin allergies - Flake White (lead carbonate): poison by ingestion, damage to vital organs and peripheral nerves from inhalation - Lemon Yellow (barium, strontium or zinc chromate): human carcinogen - Manganese Blue and Manganese Violet: nerve damage from inhalation or ingestion - Napples Yellow (lead antimoniate): toxic mutagen - Phthalocyanine Blue (Thalo Blue, Phthalo Blue): carcinogen, mutagen, teratogen, from PCBs (usual contaminant) - Phthalocyanine Green: same as Phthalocyanine Blue	- pigments are common to most art techniques requiring color - many pigments still being used in the classroom are poisonous; all are poisonous by ingestion and inhalation

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
	- Raw Umber: toxicity from iron and manganese - Vermillion: mercury poisoning from mercury sulfide or cinnabar	
Plaster of Paris	- irritation of eyes and respiratory system from dust - will dry skin	- Plaster of Paris is non-toxic, but the dust can be irritating; use care when handling the powder and wear dust mask (3M-8710) or respirator
Plastics	- fumes from heating: - formaldehyde - carbon monoxide - hydrogen cyanide (amino resins) - phenol - styrene gas (styrofoam)	- normal handling is reasonably safe - use hot wire cutters in a fume hood
Potters Wheel	- physical hazard if too large for the student	
Pottery Kilns	- produce carbon monoxide, sulphur monoxide, sulphur dioxide, sulphuric acid, pyrolized carbons, metal fumes from metallic oxides present, such as iron, chrome, cobalt, manganese and vandium	- kilns should be installed and used only under fume hoods with mechanical extraction sufficient to remove emissions (capture velocity of .25 m/s) - kilns preferably should be in a separate room and not in the classroom
Printing Ink	- toxicity of solvent (oil)-based inks	- use solvent-based inks only in a fume hood - use water-based inks - use mechanical ventilation (fume hood)

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Printmaking (Screen-printing)		
GS51 Adhering Fluid	- highly flammable - central nervous system toxin: depression - irritant to eyes, nose and respiratory tract	- use mechanical ventilation (fume hood)
Hide Glue (Lepages Liquid Strength)	- preservatives: skin allergy	
Silkscreen Inks	- contain many different aromatic hydrocarbons (toxic)	- use only in a cross drafted table, with a capture velocity of .5 m/s - use alternate water-based, water-soluble silk screen inks such as Speedball Non-Toxic Inks
Super Blox	- methlene chloride - central nervous system depressant producing delusions	- there are no apparent problems with Speedball Photo Emulsion or Ulano Blockout which can be used instead
P.V.A. (Polyvinyl Acetate) (Water Emulsion)	- eye irritant (ammonia) - may contain irritant preservative, formaldehyde	- use ventilation - avoid skin contact, use gloves
Sandpaper	- sanding dust	- use approved dust mask (3M-8710) - stop frequently and clean up with wet sponge
Shellac	- volatile solvents - may contain methyl hydrate	- use mechanical ventilation (fume hood)
Shingles	- cedar shingles and shakes: toxic sawdust - asphalt shingles: tar aromatic hydrocarbons toxic	- wear a dust mask (3M-8710) when working

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Shoe Polish	- may contain toxic solvents	- use sparingly - use mechanical ventilation
Silicone Mould Release (Candle-making)	- toxic by inhalation	- use mechanical ventilation (fume hood)
Silver Solder	- cadmium fumes (known carcinogen) - preservatives: skin allergy	- use cadmium-free solders - use a fume hood
Soapstone (Soft Stones, Serpentine)	- free silica when sanding or cutting - asbestos	- use goggles - use soft stone such as limestone, pipestone which are asbestos-free - if using soapstone,use masks (3M-8710), goggles, and gloves - clean up often during project - wet mop or vacuum afterwards
Soldering	- lead fumes: lead poisoning - flux: zinc chloride, corrosive to the skin, eyes and respiratory tract	- use mechanical ventilation - use a fume hood - local exhaust sysem
Solvents (Toluene and Xylene)	- lung irritants, may cause (in high concentrations) damage to the central nervous system	- use mechanical ventilation
Stained Glass	- lead came - lead solder - zinc chloride flux - lead known poison - burning of skin, eyes, and respiratory system from zinc chloride fumes	- cellophane and cardboard alternate activities or do glass staining with acrylics - advise students of proper conduct; maintain supervision - ventilation when soldering essential; local exhaust system

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Stop Bath (Acetic Acid)	- highly toxic by inhalation, skin contact and ingestion	- do a careful clean-up afterwards - the use of goggles and gloves is mandatory - use mechanical ventilation
Styrofoam	- toxic gases released when heating (hot wire cutters, blowtorch, matches), especially styrene gas: known narcotic, respiratory and eye irritant, possible nerve and liver damage	- use a knife to cut or if using hot wire cutter, do so only in a fume hood
Talc	- in white clays and low firing clay, may be contaminated with asbestos fibres	
Tarpaper	- toxic aromatic hydrocarbons	- use non-tar building felt
Tissue Paper	- benzidene in some colored varieties (bladder cancer)	- use only non-toxic-type papers
Turpentine	- highly flammable; skin irritant; eye, nose and throat irritant; central nervous system depressant	- use ventilation - store in ventilated storage
Varnish	- volatile solvents	- use mechanical ventilation (fume hood)
Vinyl Chloride	- may cause cancer of the liver	- used in making plastic articles; unknown number of exposures may cause problems
Wallpaper Paste	- may contain formaldehyde or mercury fungicide	- prevent children from eating it - use non-toxic paste - make up your own (see recipe at end of this section) include recipe

C.2 Hazardous Art Materials (cont...)

MATERIAL/MEDIUM	HAZARD	PRECAUTION/SUBSTITUTE
Wax	- toxicity of some waxes - release of acrolein fumes and other irritants from overheating	- use food-grade parrafin waxes - use a double boiler to control heating
Wood	- boxwood, cedar, rosewood, teak: respiratory, eye, and skin problems, skin allergies	- use safer woods such as spruce or pine
Wool	- possible anthrax infection when working with raw wool	- be certain of the source; get supplies only from a reliable dealer - use fumagated fleece - use a dust mask (3M-8710) if wool fibres cause irritation
Yarns	- possibility of anthrax in wool yarns, hand spun	- be certain of source of raw fleece; get supplies only from a reliable dealer
Zonolite, Vermiculite	- asbestos contaminated (human carcinogen)	- don't use in the classroom; substitute other materials such as sawdust or coffee grounds

C.3 Glossary (from Design Criteria for the Control of Health Hazards in the Schools)

Allergen: a substance causing an abnormal response in a hypersensitive person.

Capture Velocity: air velocity at any point in front of the hood necessary to capture and remove air contaminants.

Carcinogen: any substance or agent that causes cancer.

Chemical Sensitizer: a substance capable, upon contact, of inducing increasingly adverse effects upon a given individual; such effects are not limited by the area of contact.

Face Velocity: air velocity at the hood opening.

Fumes: small solid particles created by the condensation of vapors.

Vapor: gaseous form of a substance

Technographic Media

The nature of learning in the arts makes an integral connection with technology, since no art exists until it is made and 'making' is a technological process. Many of the concepts contained in this new art program can be taught and practised through the use of computers and other technographic media, such as cameras, overhead projectors, copiers, the laser disc image bank, movie cameras, videotape and slides.

Computer-assisted learning is an effective way to deal with image-making that uses moving points, lines, changing points of view, figure rotation, proportion, and magnification. Wherever variables occur in images -- size, tone, color gradations, marks -- computer graphics can provide a new and challenging method of learning.

Computer-assisted instruction is also a viable means of conveying information to students. The following art concepts are readily convertible to self-instructional methods: color relationships, perspective drawing, motion sequences, 3-D modelling, special graphic effects, overlapping, image rotation, enlarging, reducing, film animation, and poster layout can all be self-taught through microcomputers. As well, the storage and retrieval of much art classroom information can be handled with a computer. Students can maintain records of work-in-progress, reports and anecdotal records of aesthetic criticisms. Information about available and appropriate media, supplies and processes can be managed by computer programs. The laser disc image bank is catalogued for retrieval by computer, and students can select images for their own individual viewing and to plan presentations in this way.

A major advantage of the use of modern technographic media is the immediacy of feedback of imagery that allows testing of ideas, manipulation of compositions and the storage of many visual ideas. The imagery that results from the use of these valuable new tools must still be initially created by the student.

Technographic Media: Possibilities

- Take advantage of visual art implications of any available technological devices and explore the potential of emerging technologies.

  *simple camera used for specific purposes such as close-ups, medium shots, long shots of same subject matter; various viewpoints, action, composition

  *overhead projector for experimenting and composing with shape, line, color including using fluid media (water, oil, food coloring), colored actetates

  *computer and computer software package and input devices such as light pen, Koala pad, mouse, tablets, H-Plot, and any other advancements in this area to explore design, compose, animate and program, to make geometric shapes and designs

  *copy devices or Xerox to make compositions that involve paste-ups, distortions, reductions, block-outs

cont....

TECHNOGRAPHIC MEDIA (cont...)

*laser disc visuals interfaced with the computer for study and motivation purposes.

*8mm movie camera for documentation, sequencing, capturing movement, animation

*lighting sources such as spotlights, flash-lights, overhead projector light, strobe lights, and black lights for experimentation.

*video camera to compose

*slides for recording and sharing; handmade for understanding composition and pattern

*emerging new technologies as available and applicable.

- Employ technological media techniques, practises and capabilities to promote art understandings and create designs and compositions.

*pinhole camera construction

*developing film

*drawing directly on film or scratching for animation

*selecting and synchronizing music and/or sound effects for a set of slides, short film, videotape

*making or capturing visuals that carry a story and/or accompany a script

*handmade slides

*photographing work-in-progress, finished works to keep a record of skill development

*adjustable framing devices to select and cut out scenes from a larger picture and to sequence

*photograms

*printers to record computer compositions (or direct photography off the screen)

*animation techniques available through computer software packages

*simple film animation with jointed figures, moveable paper shapes or plastic modelling clay models

*lighting techniques for highlighting and creating an effect or mood